JUNE 15, 1923
VOL. XXV, No. 4

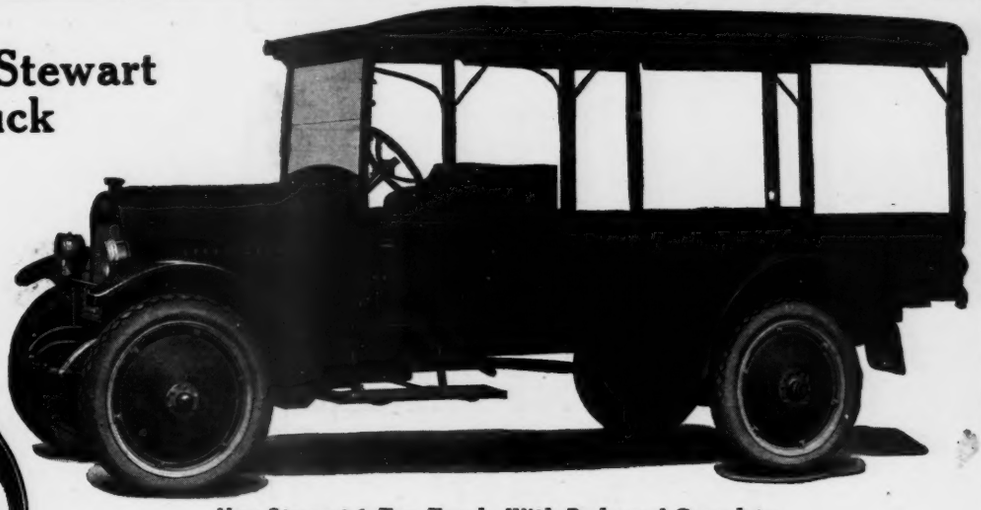
SPECIFICATION TABLE — PAGE 39

# THE COMMERCIAL CAR JOURNAL

Entered as Second-Class Matter at the Post Office at Philadelphia, Pa.


## The New Stewart 1-Ton Truck

*Bodies for Every Business*



*New Stewart 1-Ton Truck, With Body and Complete Equipment as Illustrated, $1185, F. O. B. Buffalo*

for $990 CHASSIS

## "Sold 42 New Stewart 1-Ton Trucks in 3 Days"

*Herman Motor Truck Co., New York*

*Backed by 10 Years of Successful Truck Manufacture and Financial Stability*

### *Equals Trucks Costing Up to $1800—Read What Stewart Dealers Say About It*

**Herman Motor Truck Co., New York**—Sold 42 in three days. Customers who have received deliveries delighted. Never had such an easy selling proposition in my life. Estimate we will move at least 1000 of them in 1923.

**Stewart Automobile Corp., Boston, Mass.**—Our demonstrator has arrived. It's a world-beater—beyond our expectations. It's a self-seller. Wire quick how many you can possibly ship this week.

**Stewart Automobile Corp., Worcester, Mass.**—Left factory yesterday on drive-away with demonstrator. Arrived home today, 471 miles. Averaged 17 miles to the gallon of gasoline. Stopped three times on the road by people interested in it. Have six orders already. It will sell like hot-cakes.

**Stewart Motor Truck Co., Chicago, Ill.**—Received new 1-ton demonstrator five days ago. Have twenty-one orders. Start carload shipments quickly.

**Hinkel Motor Truck Corp., Cleveland, Ohio**—The new 1-ton Stewart is a sensation. Received our two demonstrators today. Enter our order for 25 more to be shipped as soon as possible.

**Gomery-Swartz Motor Car Co., Phila., Pa.**—New 1-ton making a great hit. Owners highly pleased. Mailing 26 orders tonight.

*Liberal Discounts to Dealers in Small Towns*

*Write or Wire Today*

# STEWART
MOTOR CORPORATION Buffalo N.Y.

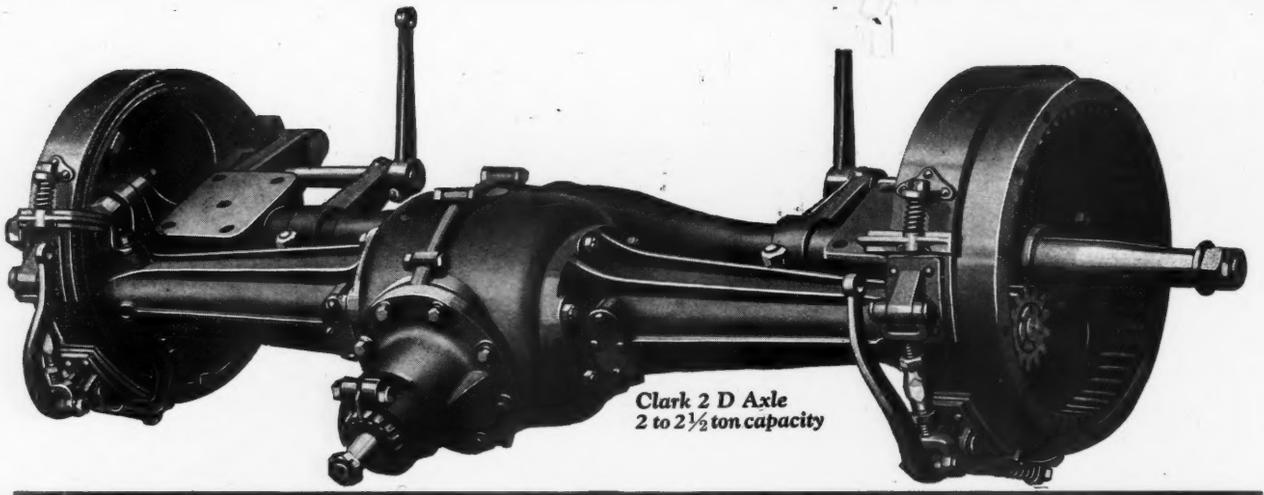
**Other Sizes and Chassis Prices**
*f. o. b. Buffalo*

| | | |
|---|---|---|
| 1¼ to 1½ | ton | $1495 |
| 1½ to 2 | ton | 1870 |
| 2½ to 3 | ton | 2590 |
| 3½ to 4 | ton | 3440 |


PUBLISHED THE 15TH OF EACH MONTH

CHILTON COMPANY

CHESTNUT & 56TH STS. PHILADELPHIA



*Clark 2 D Axle*
*2 to 2½ ton capacity*

# CLARK AXLES

BEVEL GEAR
INTERNAL GEAR
OVER HEAD DRIVE

**MOTOR TRUCK dependability is determined largely by axle, transmission and engine equipment. Clark Axles are good axles: hence,**

**—trucks equipped with Clark Axles are known as good trucks.**

**Built in ten models of internal gear drive, bevel drive and "over-head" drive and in capacities from ¾ to 5-ton.**

**CLARK EQUIPMENT COMPANY**
**BUCHANAN • • • MICHIGAN**



*Clark steel wheel; 5-ton front for solid tires. Also built in disc for solid or pneumatic tires.*

*We build steel wheels for any purpose — also high-grade electric steel castings for automotive parts.*

*Spoke and Disc* *For Truck and Bus*

# CLARK STEEL WHEELS

*Clark Steel Wheels average over 100 lbs. per set lighter than any other steel wheel*




# To the Manufacturer

Where QUANTITY Production is the Objective

Where the Product must be sold in a HIGHLY COMPETITIVE Market, and

Where the AFTER-SALE SERVICE is an important factor

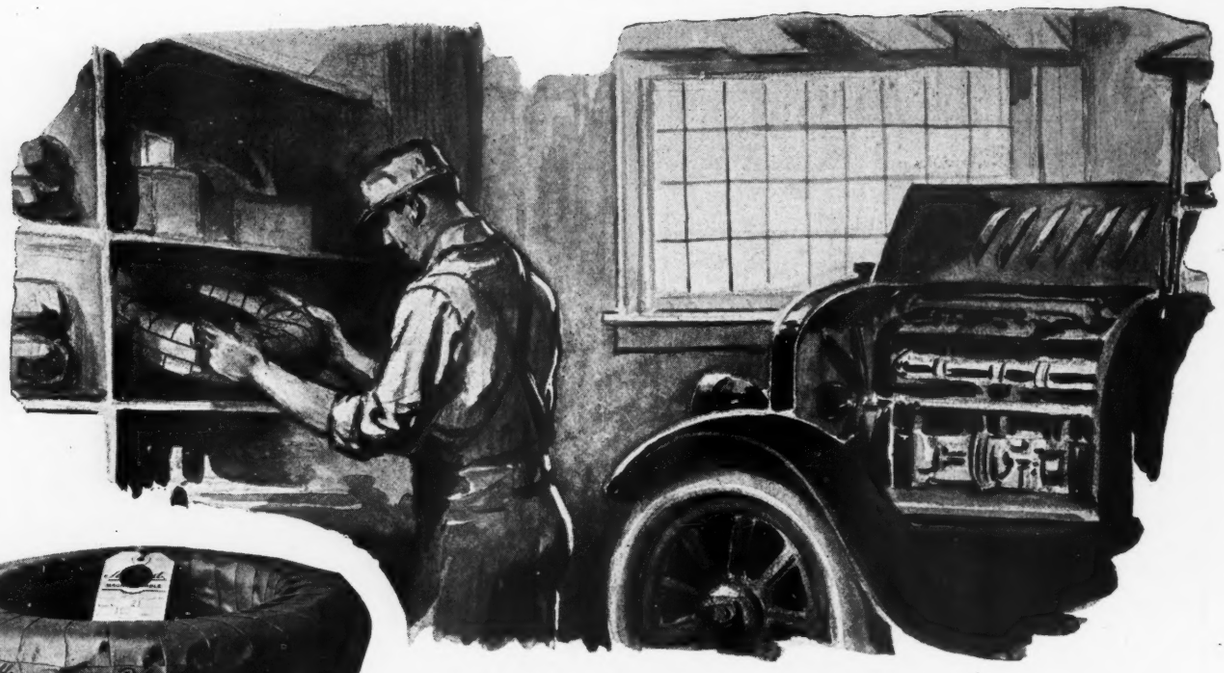
the DEALER is the MEDIUM
through which the product MUST be sold.

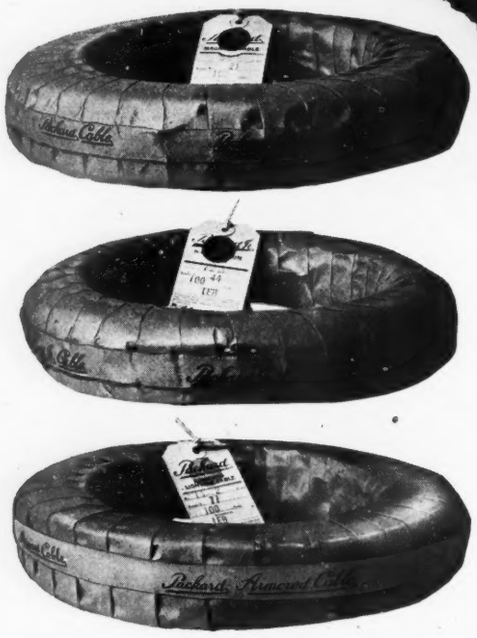
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Some highly specialized products, which are produced in small quantities and built on contract in most cases, can be sold through direct representation, but Motor Trucks; Motor Buses; Industrial Tractors; Trailers; Bodies; Small Road Building Machinery; Automotive Equipment, etc., can be *marketed successfully only through a dealer organization.* The larger and more efficient the organization the more quickly will your objective be reached.

The industry needs right now more dealers in the smaller communities—AUTOMOTIVE TRANSPORTATION MERCHANTS.

There is plenty of wide open territory. Manufacturers could greatly increase their output and consequently reduce their overhead and make more profit, by actively cultivating the small town market.






**Packard Cables come in coils of 100 feet or more, neatly wrapped and tagged. Check up your supply—order from your jobber.**

# Give Superior Service—and Prosper

Make no mistake about it! The quality of your service—plus the quality of your truck—determines the degree of prosperity your business will achieve.

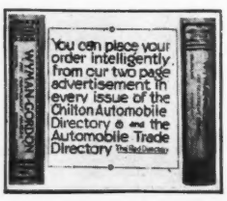
When a customer's truck needs servicing, see to it that *all* replacement parts are first-grade.

You cannot afford to permit an unknown quality unit to creep in—even if it's an apparently insignificant detail.

The cable, for instance. A wiring assembly that "lays down" on the job when least expected will play havoc with customer good-will.

Specify Packard Cable, the standard of the automotive industry for over twenty years!

Be safe. Give *superior* service—and prosper.




The Packard Electric Company
Warren Ohio

# Packard Automotive Cable

**The Standard For Over Twenty Years**

THIS SYMBOL IN ANY ADVERTISEMENT MEANS: SEE "CHILTON AUTOMOBILE DIRECTORY" FOR COMPLETE BUYING INFORMATION

# THE COMMERCIAL CAR JOURNAL

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SUBSCRIPTION RATES

| | |
|---|---|
| United States and Possessions | $2.00 |
| Canada | 3.00 |
| Foreign | 4.00 |
| Single Copies | 40c |

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Change of Address—Subscribers desiring their address changed should give the old as well as the new

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# STANDARD CAST STEEL WHEELS

*For Your Quality Motor Truck*

With a big load, the motor truck, shown above, is about to travel over rutty and uneven roads. Fortunately it is equipped with STANDARD CAST STEEL WHEELS, as are thousands of other trucks compelled to constantly operate under adverse conditions.

For STANDARD CAST STEEL WHEELS are specially made of the highest grade electric furnace steel and are cast in one piece to withstand the terrific strains daily imposed on them.

Let us show you how we can build them to meet your engineers' most exacting requirements.

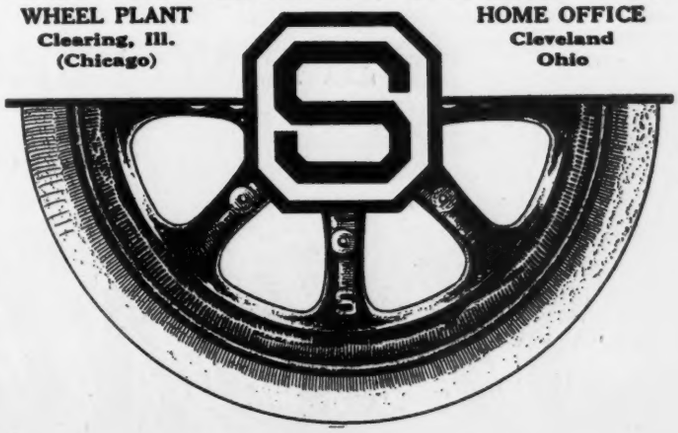
At the Good Roads Show in Chicago more trucks and road cranes were shown equipped with STANDARD CAST STEEL WHEELS than with those of any other make.

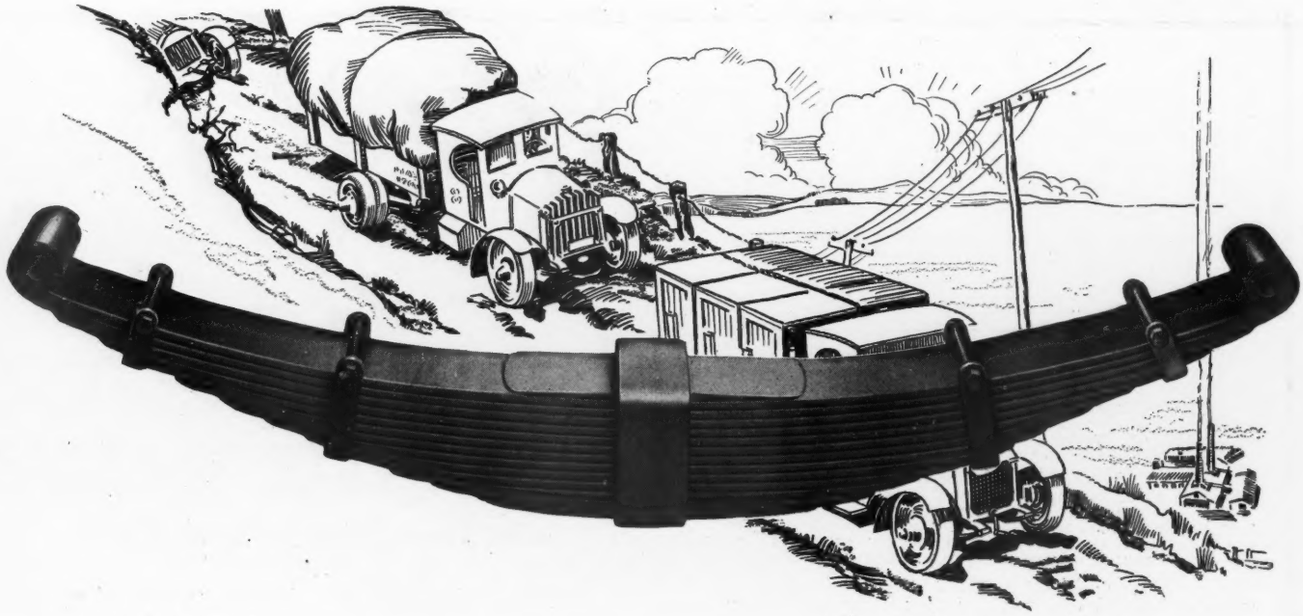
**Made by**

**THE INTERSTATE FOUNDRY CO.**

**WHEEL PLANT**
**Clearing, Ill.**
**(Chicago)**

**HOME OFFICE**
**Cleveland**
**Ohio**





# Performance-Proved Selling Assets!

Equip your chassis with Spring-Perch Springs. The acid test of performance will prove them to be real selling assets for you—and your dealers.

Since 1843 the Spring Perch Company has specialized in the manufacture of springs—made to a quality standard.

Why not avail yourself of the services of our spring experts. Send us your specifications.

**Compound Springs for Bus Service**—suitable for their greatly varying load conditions.

**Banded Springs for Trucks**—especially desirable for Hotchkiss Drive. Special designs for Speed Wagons.

## SPRING PERCH COMPANY

*Makers of Springs Since 1843*

**STRATFORD, CONN.**

# SPRING-PERCH

THIS SYMBOL IN ANY ADVERTISEMENT MEANS: SEE "CHILTON AUTOMOBILE DIRECTORY" FOR COMPLETE BUYING INFORMATION




# *The International Speed Sedan*

## Opens Up a New and Profitable Market to You

WHEN the International Speed Sedan was announced several months ago it was received enthusiastically by dealers everywhere. The reason is obvious. The Speed Sedan is an attractive, snappy, comfortable bus, especially designed for the use of golf clubs, hotels, lake resorts and all passenger lines where a better-than-average bus is required. The body is of the motor car type, upholstered luxuriously, and fitted with wide, easily-opened doors that afford quick loading and unloading. Passengers enjoy riding in this type of bus; it is a good model to sell to even the most exclusive club or hotel.

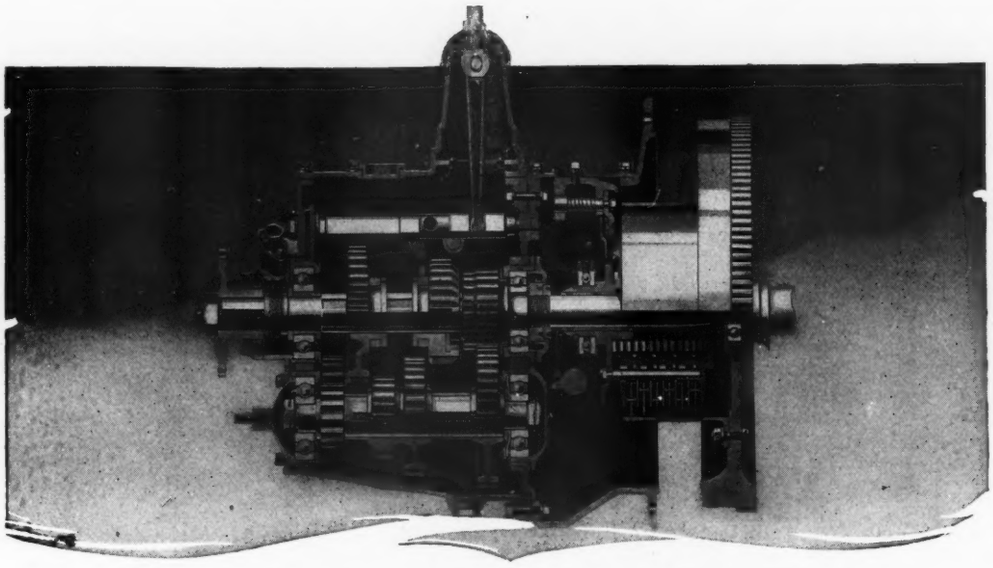
The International Speed Sedan is a part of the complete International line, which includes truck models ranging from 2,000 to 10,000 pounds capacity. There are sizes and styles for every passenger transportation or commercial hauling purpose. Many dealers are building up permanent and successful business around this line. If you are in a position to render the class of sales and service co-operation that has become an International standard, you should write at once for information regarding the contract for your territory. It may be available.

## INTERNATIONAL HARVESTER COMPANY

606 So. Michigan Ave. of America *(Incorporated)* Chicago, Ill.

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SKF



# Ball Bearings on Clutch and Transmission Prevent Wear and Improve Performance

ALTHOUGH clutch bearings are difficult to lubricate and those on the transmission are subject to severe loads, the shaft settings must be maintained despite these adverse conditions in order that the clutch may function properly and the transmission run smoothly, silently and efficiently.

Wear is practically eliminated when deep-groove ball bearings made by the Hess-Bright Manufacturing Company are used in the transmission and on the clutch.

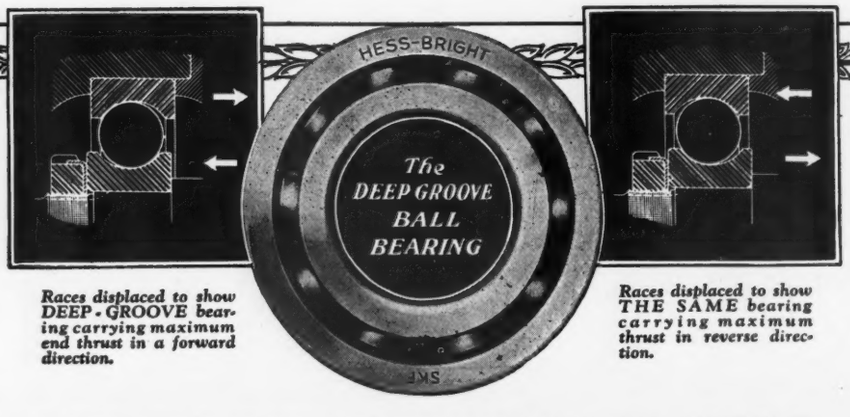
The transmission gears remain in proper mesh without need of bearing adjustment and the clutch, which is also equipped with a thrust ball bearing on the throw-out, operates properly with only occasional application of lubricant.

Manufacturers who pride themselves on the efficient performance and low maintenance costs of their cars or trucks will find our bearing engineering service a valuable adjunct in bringing about desired results.

## THE HESS-BRIGHT MANUFACTURING COMPANY

Supervised by SKF INDUSTRIES, INC., 165 Broadway, New York City

916

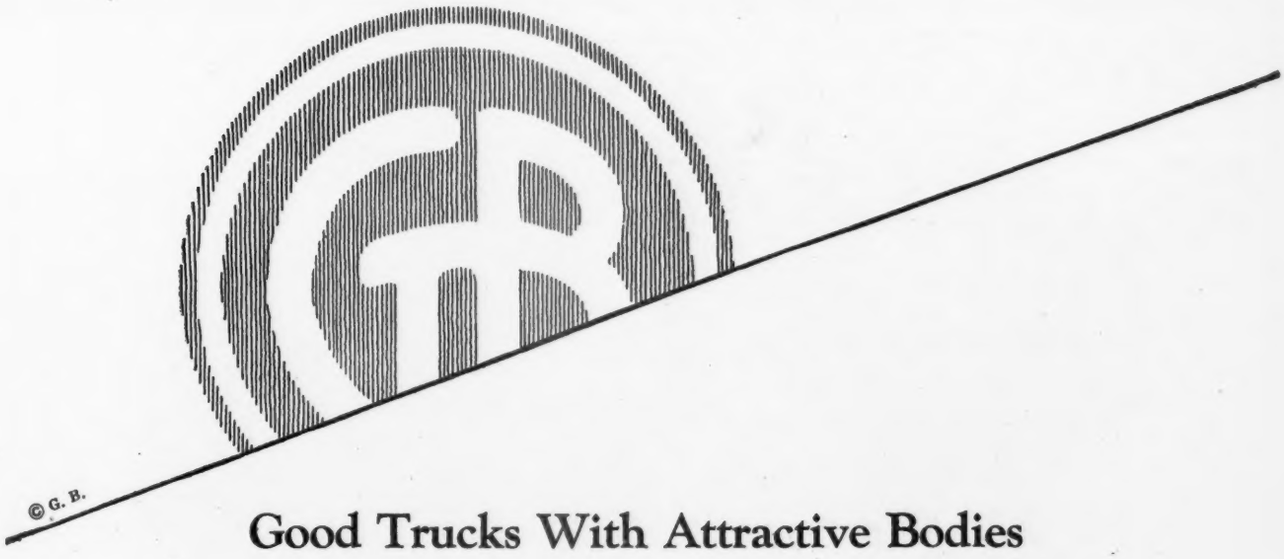



*Races displaced to show DEEP-GROOVE bearing carrying maximum end thrust in a forward direction.*

*Races displaced to show THE SAME bearing carrying maximum thrust in reverse direction.*

BALL BEARINGS
*The Highest Expression of the Bearing Principle*

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# Good Trucks With Attractive Bodies

Situated in the heart of a great lumber district, in Evansville, Ind., Graham Brothers body factory has a double advantage of the greatest importance to truck buyers.

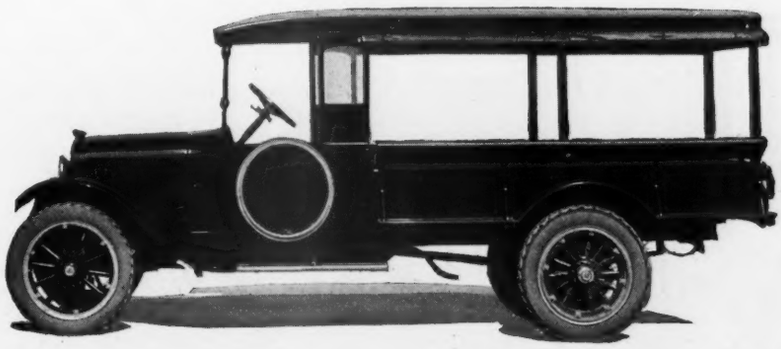
One is the low freight rate on raw materials, which is reflected in the low price of the bodies. The other is an unlimited first choice of the finest timbers, which is reflected in the quality.

The 30 standard body types which Graham Brothers are producing in steadily increasing numbers, meet the requirements of practically every line of business.

This means that you can buy a Graham Brothers Truck complete, without the extra expense and inconvenience of ordering a chassis from one source and a body from another.

*1 Ton Chassis, $1265; 1½ Ton, $1325*
*f. o. b. Detroit or Evansville, Ind.*

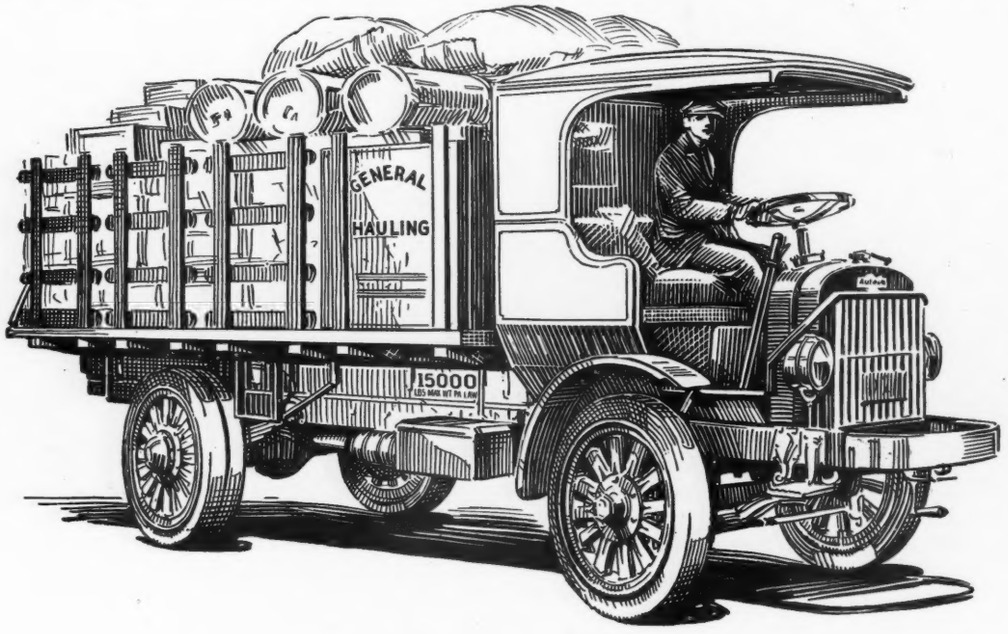
GRAHAM BROTHERS
*Detroit* *Evansville*



# GRAHAM BROTHERS TRUCKS

SOLD BY DODGE BROTHERS DEALERS EVERYWHERE

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**4-cylinder, 2 to 3 ton Autocar**

**Chassis prices, f. o. b. Ardmore**

**114-inch wheelbase, $3100 138-inch wheelbase, $3200**

## Distinctive Autocar Advantages

*Short wheelbase handiness*
*Light weight sturdy chassis*
*Even load distribution*
*Low cost protective bushings*
*Low cost replacement parts*
*Full supply of parts available*
*Double reduction rear axle*
*Engine more accessible from all sides*

*Autocar direct factory branch service*

THE AUTOCAR COMPANY, Ardmore, Pa., Established 1897
BRANCHES IN 45 CITIES

**The sturdy**

# Autocar

**Wherever there's a road**

**A complete line of Autocar trucks—new, rebuilt and reconditioned**
**Capacities 1 to 6 tons—Chassis prices $1100 to $4350**

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# The Commercial Car Journal

VOLUME XXV PHILADELPHIA, JUNE 15, 1923 NUMBER 4


# Outlying Communities Are Staunch Supporters of Bus Enterprise

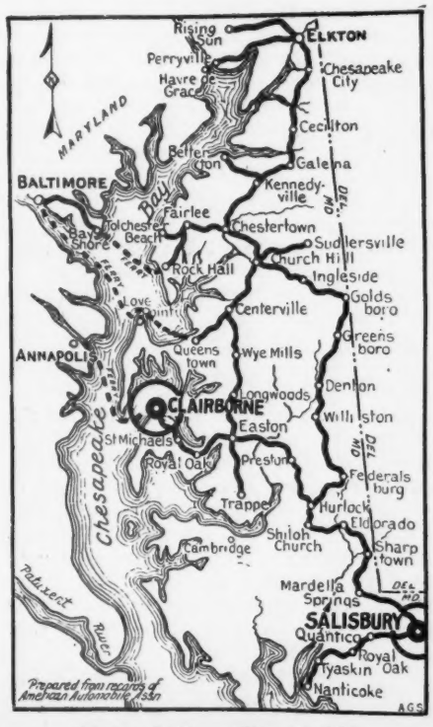
## *Transit Facilities Are Now Afforded Them to Points Formerly Reached Only at Great Inconvenience. The Recently Organized Shore Transit Line of Maryland is an Assured Success Because of This Co-operation*

By LEWIS KRAKOW

ANOTHER indication that motor bus service is gradually becoming a reality in the outlying sections of our country is manifested by the recent incorporation and organization of The Shore Transit Line, Incorporated, whose purpose is to give the Eastern Shore of Maryland a complete transportation service.

Unfortunately the Eastern Shore of Maryland had always been hampered in development by lack of proper transportation facilities. The Shore is at present served by a direct line from New York by way of Philadelphia to Cape Charles and by two small unreliable crisscross railroads operated from shore line to shore line as subsidiaries in conjunction with two other steamship subsidiaries of the same system. The present railroad facilities are so poor that the new bus service when fully installed will operate buses on about ten different lines only one of which will parallel the railroad track, and that from Salisbury to Claiborne.

The officials of the new company have routed a complete schedule which will give service to the following towns: Claiborne, Salisbury, Easton, Hurlock, Preston, Sharpstown, Federalsburg, Denton, Crisfield, Nanticoke, Greensboro, Goldsboro, Church Hill, Centerville, Chestertown, Rock Hall, Elkton, Ocean City, and Pocomoke City. These cities lie in nine counties and the service traverses the concrete roads intersecting them. The route also connects direct with the three ferry lines to Baltimore—the Claiborne-Annapolis Ferry, the Peninsular Ferry from Queenstown, and Rock Hall to Bay Shore. The territory covered by this motor service in population and taxable basis in 1922 shows a total population of 194,420 and a taxable basis of $132,106,668.




Route of Shore Transit Line

Of the original order for ten modern buses three are already in service and it is expected that the balance will be put in as soon as they are received from the factory. The buses represent the last word in modern bus construction and have been built with a view toward efficiency and reliability. The bus is a special job and consists of a specially built bus body mounted on a special 2½-ton Commerce bus chassis with a 6-cylinder model 16, Red Seal Continental engine. The body represents the acme of construction for comfort and operation. It is constructed of wood and elaborately furnished with upholstered seats and several innovations in bus construction. A sounding horn is placed at the rear of the bus and a tube transmits the "horn" of the motorist intending to pass the bus. The entire electrical system is controlled from the chauffeur's seat with what is known as the "double battery system," which it is claimed by R. T. Bonham, general manager of the firm, is being used for the first time on any vehicle.

The bus is equipped with two batteries, and a switchboard is placed at the left of the chauffeur, who upon discovery that one battery is getting low, merely throws the switch and the other battery is discharging while the low battery is being charged. In conjunction with this switchboard, there



All the Buses of This Company Are Built to the Same Specifications and Contain Modern Bus Furnishings

is a separate switch for every dome light, road light, parking light, tail light and other dash board lights. In addition to the above a light is placed at the foot of the door to facilitate egress and ingress.

The bus is heated by electricity from the double battery system, each seat being equipped with a separate heater, the entire system controlled by a foot lever on the floorboard. A complete ventilating system also controlled by a foot lever is another feature, while a foot-controlled safety door is another important addition. Ample provision has been made for baggage by the construction of baggage compartments beneath the bottom of the body and by a baggage stand at the rear of the bus. Every glass in the bus is of French plate glass and the windshield is equipped with visor and automatic windshield cleaner.

The roof is of a special construction of bass wood and the entire interior of the bus is white enameled and the exterior is finished a battleship gray. Each bus will seat 25 persons comfortably and will take care of 40 passengers if taxed to full capacity. The weight of each bus is over 8400 lb. and the list price per bus is $8800.

The officials of the corporation represent the highest type of men of the Eastern Shore and are as follows: A. M. Jackson, Salisbury, president; Walter Miles, Baltimore, vice-president; R. T. Bonham, Salisbury; secretary and geenral manager, and Wm. J. Ogden, treasurer.



**At the Claiborne Pier. The Annapolis Ferry is in the Background**

The buses now operating between Claiborne and Salisbury make one trip from Salisbury to Claiborne and return each morning and a like trip every afternoon. One bus leaves Salisbury at 6.57 A. M. and arrives at Claiborne at 9.40 A. M. in time to meet the Annapolis ferry. This bus after taking on passengers, immediately departs for Salisbury. Another bus then leaves Salisbury at 3.55 P. M. with passengers for the evening ferry, arriving at Claiborne at 6.37 P. M. This bus awaits the arrival of the evening ferry, and then leaves for Salisbury at 6.50 P. M. The actual distance between the two points is 68 miles and the run is made in an average time of 2 hours and 40 minutes, with an average of 20 stops to every trip, which means an average speed of about 26 m. p. h. In addition to the above, the company has two buses at Claiborne on Friday and Saturday evenings. One of these buses is filled with only Salisbury passengers and is called the Salisbury Express, making the run to Salisbury without any intermediate stops. The other bus is the local bus and takes passengers to their various destinations along the route.

The company realizes that by the time the Eastern Shore folk become acquainted with their lines and method of operation, these buses will represent an important link of the public service between the Eastern Shore of Maryland, and Baltimore, Annapolis and Washington. The officers of the company have therefore, taken especial care in the selection of drivers for their buses. All prospective drivers are first examined by the State Commissioner of Motor Vehicles and are given the most rigid tests in road driving, before chauffeur licenses are issued them. The prospective driver also undergoes a medical examination, his physical condition is ascertained, whether the hearing and eyesight are good. Care has been taken that all drivers selected are mechanics, men who are familiar with automotive mechanics and can meet an emergency on the road as it presents itself. One man with extraordinary mechanical ability has been selected as relief man for both driving and to have complete charge of repairs on all the buses.

A unique feature of the service that this company is rendering its patrons is that every passenger who rides on the company's buses, is insured against injury or death until the moment he or she leaves the bus. From the moment a passenger steps aboard any of the buses and until he steps from the bus, a blanket insurance policy automatically insures each passenger to the extent of $5000 in case he suffers injury or death, in any way connected with the operation of the bus. This provision has been made so that all passengers will be protected while using the company's buses, without cost to the passenger.

The company is co-operating in every way with the Maryland State Police, and forms a sort of perpetual patrol of the highways of the Eastern Shore of Maryland in conjunction with the State Police. Drivers are instructed to report anything unusual that they may see during their runs, such as fallen trees or telegraph poles, blown down wires or any other assistance that can be given the State Government. The buses carry dispatch envelopes for the State Police, from and to various points on their routes and also give free transportation on all buses to members of the State force. All chauffeurs employed by the company have undergone a thorough schooling in driving under direction of the State Police.

A complete report known as "Operator's Report" is filled out in duplicate by each driver after each one way trip. This report notes the date, bus number, route and direction of travel. Columns are provided for the notation of the number of passengers carried from any one point to any other point and the amount of fare collected. A section of the report is devoted to the baggage carried and shows number of trunks hauled from any points to any other points and the charges. This section also shows extra baggage, parcels, packages, etc., carried and the charges



**Discharging a Passenger on the High Road Between Claiborne and Salisbury**



**Arriving at the Claiborne Pier From Salisbury With Passengers for the Evening Ferry to Annapolis**

therefor. The operator then notes scheduled leaving times, actual leaving times, scheduled arrival times and actual arriving times, also whether bus operated properly and if not, then the trouble must be noted. In case a tire change is necessary, the notations are made under Tire Change Report. In this space the make and serial

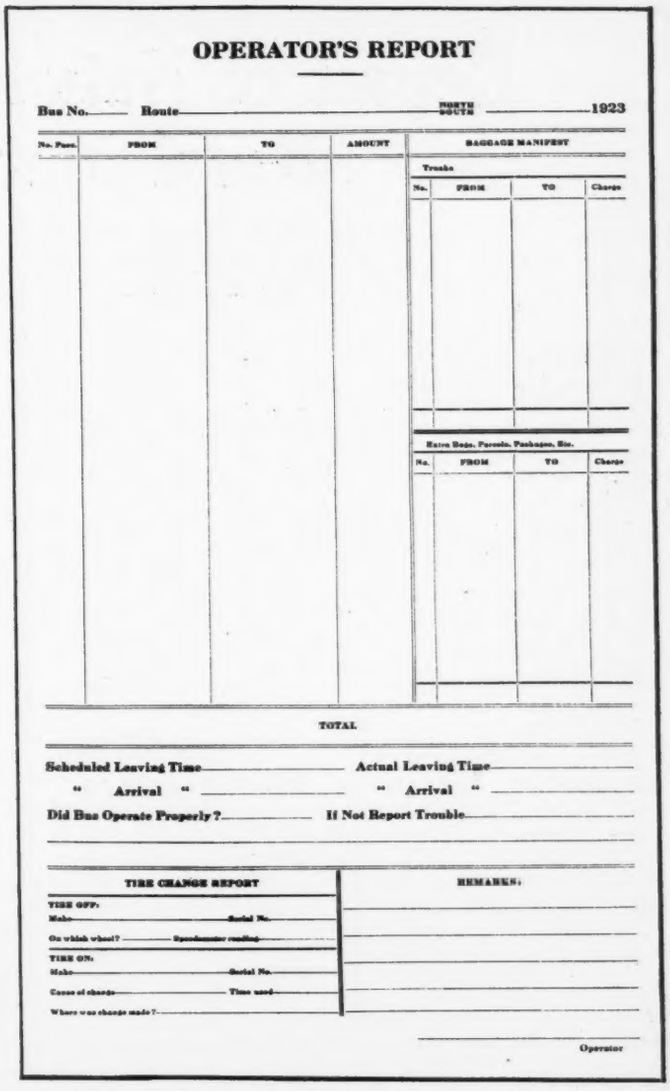
number of the tire that has been removed are noted, as well as the particular wheel that the tire has been removed from, and the speedometer reading at the time of making the change. The make and serial number of the tire that replaces the tire removed are then noted as well as the cause of the change, the time consumed in making the change, and the place where the trouble occurred. A space is also provided for any further remarks that the driver may care to make as to his bus, the road conditions or any other condition that may have developed during the run. From this report an accurate check is kept on the total number of passengers hauled from and to any two points, also the amount collected in addition to the baggage and parcel report. The time of departures and arrivals are closely watched from these reports and the service that tires give is easily and readily determined by this report.

Continual operation of the buses has given the company much concern and in an effort to give the public steady reliable service, special preparations have been made to service the buses. Such parts as a complete clutch assembly, clutch assembly, clutch drum pins, complete connecting rods assembled, extra wheel and differential bearings, extra spring and spring plates, transmission gears, fan belts, spark plugs, cylinder head and crank case gaskets, bolts, nuts and lockwashers are always carried in stock at Salisbury, in addition to a goodly stock of tires and tubes. Provisions are now being made for the establishment of a central shop at Easton, where a complete stock of parts will be carried on hand, including a complete motor assembly, a complete rear end, and all other parts of the bus from the radiator to the tail light. The company now maintains shops and garages at both Salisbury and Claiborne.

Each bus carries a complete set of road tools, spare spark plugs, fan belt, electric bulbs, bolts, nuts and lockwashers in addition to two spare tires, mounted and inflated, one for each size wheel, one 36 x 6 and one 40 x 8. In case of emergencies one tire of each size, mounted and inflated are carried at both Salisbury and Claiborne. A 7-passenger touring car is held in readiness at Salisbury in case of emergency.

The officials of the company state that lines are profitable, operating cost are lower, because only experienced, well paid mechanics - drivers are employed and due to a 202-in. wheel-base, the riding qualities of the buses are good, at the same time giving maximum tire mileage.

**Complete Operating Information is Recorded by the Driver on This Report.**



**OPERATOR'S REPORT**

Bus No.____ Route____ NORTH SOUTH ____ 1923

| No. Pass. | FROM | TO | AMOUNT |
|---|---|---|---|
| | | | |

BAGGAGE MANIFEST

Trunks

| No. | FROM | TO | Charge |
|---|---|---|---|
| | | | |

Extra Bags, Parcels, Packages, Etc.

| No. | FROM | TO | Charge |
|---|---|---|---|
| | | | |

TOTAL

Scheduled Leaving Time____ Actual Leaving Time____

" Arrival " ____ " Arrival " ____

Did Bus Operate Properly?____ If Not Report Trouble____

TIRE CHANGE REPORT

TIRE OFF:
Make____ Serial No.____
On which wheel?____ Speedometer reading____
TIRE ON:
Make____ Serial No.____
Cause of change____ Time used____
Where was change made?____

REMARKS:

Operator

## Taxicab Association Formulates Model Ordinance

After two years of careful study of existing taxicabs ordinances in the United States and Europe, the National Association of Taxicab Owners has drawn up a Model Ordinance for the Regulation of Taxicabs. This model ordinance is composite in nature including the best features of taxicab regulations now in effect and incorporating some new provisions that have been tried out and found successful in many cities.

Because of the crying need for effective regulation of taxicabs in most cities of the United States, due to the rapid growth of this industry, this model ordinance has been in tremendous demand since it was published, and the Secretary of the National Association of Taxicab Owners has sent out over six hundred copies in answer to requests from Mayors and other city officials. In some cases the ordinance has been adopted almost verbatim; and in scores of other cities the principal clauses have been the nucleus around which new taxicab ordinance have been drawn up.

This model ordinance contains only such provisions as have been upheld in courts of law and such features as will improve character of taxicab industry.

Its adoption practically means the elimination of the irresponsible, undesirable "hacker" and insures the riding public, safety, courtesy and low rates. The principal requirements of this ordinance are:

1. Bonding—liability insurance on each cab.
2. Name of company on door of each cab.
3. Taximeters on each cab.

Copies of this ordinance can be obtained by writing the Secretary of the National Association of Taxicab Owners, 500 North Dearborn St., Chicago.

### HERE'S GOOD NEWS

**The total shortage in freight cars, May 22, the American Railway Association announces, was 20,585 a decrease of 3176 since May 14, while surplus freight cars in good repair totaled 22,700 an increase of 4281, during the same period. This was the first time since September 1, 1922 that the surplus has exceed the shortage.**

## Barton Axle Company Plant Sold

The Fond du Lac Circuit Court has issued an order confirming the sale at auction, by the receiver May 12th, of the entire assets of the Barton Axle Company of Barton, Wis., to a group headed by L. R. Huffman of Elkhart, Ind.

This company which has been in a receivership for several months had a property of twenty-seven acres with a new fire-proof plant completely equipped with the most modern machinery for the manufacture of the worm drive type of truck axles. There is a large inventory of raw and finished materials as well as fifteen residence buildings for housing executives and employes. The cost value of the property is given as about $375,000.

The purchasers have not indicated what their intentions are with reference to the property other than to state that this purchase is a step in their plans relating to another concern in which they are interested, the Huffman Brothers Motor Company of Elkhart, Ind., manufacturers of Huffman trucks and passenger cars.

# Report of National Committee on Rural Motor Express

**Presented by the Chairman, J. H. COLLINS, Manager Commercial Survey Department, CHILTON COMPANY, at the Annual Meeting of the National Highway Traffic Association in New York City on May 10, 1923**

THE development of rural motor express lines has not been on the scale indicated by early endeavors. The transportation crisis brought about by war conditions carried over for about eighteen months after the signing of the armistice. This transportation crisis forced the development of a number of relatively new forms of transportation, including the sponsoring of a large number of motorized express lines serving rural districts.

The agricultural and industrial depression which followed the postwar boom gave the rural motor express movement a very decided setback.

The year 1919 probably witnessed the most active interest displayed up to that time in motorized rural service. In that year there were approximately 749,000 motor trucks registered in the United States. Latest registration figures indicate that today there are more than 1,400,000 motor trucks registered in the United States, nearly double the number in use in 1919, and yet the number of rural motor express lines has not grown in the same proportion. Please understand that reference is not made to motor bus lines for passenger transportation. During the past year or two the motor bus business has been booming, both in country districts and in suburban areas surrounding our larger centers of population.

**This does not mean that rural motor express service is economically unsound. On the contrary, experience has demonstrated the efficiency of properly organized motor lines in country districts.**

### Reasons for Slow Development

The lull in motor express development has been brought about by general conditions in agricultural territories, and has had nothing whatever to do with the motor express business itself. The two years just passed have been the most severe trial which the American farmer has been called upon to bear for more than a decade. Conditions, however, have changed materially for the better during the last few months, and it now appears that more adequate facilities for rural transport will again become a matter of paramount importance. **Under the circumstances, we may look for a renewal of interest in the development of rural motor express, and for the establishment of increasing numbers of such lines during the next two or three years.**

As has been suggested before, one of the chief reasons for the lack of growth of motor express lines during the past two years has been the curtailment of normal activities due to depressed business conditions. The closing of many factories during the latter months of 1920 and in 1921 released a considerable amount of railroad equipment which had previously been needed for the movement of farm crops. Therefore, to all intents and purposes, railroad facilities became more nearly adequate for rural needs than at any time during recent years. In fact, for a time there was a surplus of railroad equipment. Thus there has been a very potent reason for non-development of motor express lines due to the fact that the need for such lines has not been as pressing during the past two or three years as in the latter months of the war period and just following the war. The business cycle has reached another stage of development and again the need for flexible highway transportation facilities for rural districts has become apparent.

Another important reason for the non-development of motor express lines of late has been the old difficulty, i. e., lack of knowledge of the business of operating a rural motor express line. Experience is an expensive teacher, **and too many of the organizers of rural motor express have entered the business with little or no knowledge of its fundamental character.** It is a matter for regret that today we know very little more about the successful operation of rural motor service than we did in the months just following the war, when motor express received its greatest impetus.

### Chief Factors on Which Knowledge is Required

The cost of doing business is understood by very few truck operators. A number of satisfactory forms and records have been prepared for use in truck operation, but there has not been enough educational work to induce any considerable number of operators to keep such records carefully.

**The development of tonnage on a systematic basis has been a problem of the first magnitude for those who engage in rural hauling.** A number of suggestions have been published along this line, but there is need for additional missionary work in the instruction of truck operators in the building up of a regular and systematic tonnage.

Inability to secure tonnage during the dull season in agricultural districts has broken more than one promising motor express line. Here again there is need for some educational and promotional work to instruct operators on potentialities of supplemental business.

Little has been said to help the purchaser in the selection of proper truck equipment for use in rural hauling. This problem couples up very closely with the cost of doing business, and requires some serious and thoughtful consideration, and issuance of some real helpful facts and figures.

### Growth in Farmer Organizations and the Rural Express Movement

One of the most interesting and important phases of agricultural development during the past year or two has to do with the extent of farmer organization. The growth and importance of the Grange, the Farmers' Union, and more particularly, the American Farm Bureau Federation, is highly significant. American agricultural practice is at last being organized along practical business lines. This means that farm products and farm problems will be handled on a community basis instead of an individual basis. More particularly from our view point, it forecasts the development by farmers' organizations of their own methods of local transportation. **It presages the founding of additional co-operative motor truck lines, founded by farmers, operated by farmers, and designed primarily to serve rural districts.** In all likelihood, farmers' co-operative motor truck lines will be established on a much more ambitious scale than in past.

It is respectfully submitted that the Rural Motor Express Committee of the National Highway Traffic Association can function best through the establishment of co-operative relations with the various leading factors now interested in the development of rural motor express. Such co-operation might well be along the following lines:

(1) Co-operation with truck manufacturers in making analyses of hauling costs, and in the selection of the best types of equipment for motor express lines.

(2) Co-operation with successful operators of rural motor express lines to the end that the systems and methods of these operators may be made available for the common good.

(3) Co-operation with railroad committees in the study of ways and means whereby rural motor express lines can be made more effective feeders to established railroads.

(4) Co-operation with farmers' organizations in the development of community hauling systems.

After two years of quiescence the development of the rural motor express bids fair to again become a matter of prime importance and of prime interest.

# Are You Overlooking the Farmer?

## *Improvement in the Agricultural Situation Has Again Put the Farmer in the Market as a Truck Buyer*

By EDWARD A. KEENAN

LAST year the Joint Commission on Agricultural Inquiry made this significant statement: "No single development since the railroads were first constructed, has so marked an economic and sociological effect upon productive life as the motor vehicle. Previous to its appearance the economic zone of transportation was sharply defined by the haulage range of the horse and the cost of such transportation." The motor truck has answered one outstanding need in productive life; the saving of time. Farm products and livestock must be carried to their markets with the greatest possible haste. For this reason farm trucking has made itself indispensible to the economic life of America.

### Concentrate on the Farmer

The truck selling fraternity has been slow to recognize this potential market, although it must be admitted that the financial condition of the farmer in the past few years has not been encouraging to the motor truck dealer. But the fact still remains that the farmer, whose economic position has progressed tremendously in the past ten months, is still not being canvassed for sales as he should.

In view of these existing conditions the bulletin recently issued by the U. S. Department of Agriculture entitled "Motor Trucks on the Corn Belt Farms" (Farmer's Bulletin No. 1314) is of timely interest to all dealers who can in any way establish contact with the farmer.

In February, 1920, over a 1000 farmer truck owners in Illinois, Indiana, Iowa, eastern Kansas, southern Minnesota, Missouri, eastern Nebraska, southeastern South Dakota and southern Wisconsin reported to the Department of Agriculture, as set forth in Bulletin No. 1314, on a number of questions concerning their motor trucks. In 1922 those farmers who replied in 1920, were solicited for further information on their trucks and a comparison made between the two reports, a considerably smaller number reporting the second time. This information forms the material for Bulletin No. 1314.

Of the 555 replies in 1922, 508 or 92 per cent still owned the motor trucks on which they reported in 1920 and had used them in 1921. Of the 47 men who no longer owned the trucks on which they originally reported, 21 has replaced them with others and the remaining 26 had not purchased others. On the face of these figures it would seem that the percentage of new truck sales was too small. These men had been educated to the advantage of the truck on the farm and the great majority intended to continue truck use.

The report of the department showed three significant conditions prevailing among the truck owners.

(1) The average size of the farm on which trucks are operated is considerably larger than the average size of all farms in a state, as can be seen by the accompanying table:

| | Average Size of All Farms, 1920 Census | Farms Using Trucks |
|---|---|---|
| Illinois | 135 acres | 266 acres |
| Indiana | 103 acres | 279 acres |
| Iowa | 157 acres | 284 acres |
| Missouri | 132 acres | 433 acres |

(2) Farms on which trucks were owned were a greater distance from market than other farms in the same section.

(3) The size of the farm and the distance to market had very little to do with the size of the trucks which the men purchased.

Under the caption, "Are These Trucks Profitable?" the Bulletin says: "The method of conducting the investigation was such that it was not possible to determine the extent to which the use of motor trucks had changed the incomes of these men, but each one was asked the question 'Do you believe this truck has been a profitable investment?' Each of the owners undoubtedly expected when he purchased his truck that it would prove a profitable investment, and the reply to this question should at least show the extent to which the trucks have not come up to the expectations of their owners. In all, 81 per cent of the men reporting in 1922 stated that they believed their trucks would prove profitable. A summary of the replies of the same men in 1920 showed that at that time 91 per cent believed their trucks would prove profitable.

"That some of these men had changed their opinions during the two years between the reports was probably due to the fact that as the trucks became older the cost of operating some of them had increased unduly, and furthermore that economic conditions in 1922 were not as favorable to the use of motor trucks as they were in 1920 and earlier. * * * *

### Truck Usage Firmly Established

"Practically all of these men, however, expected to continue to use their machines even though they did not believe they were proving profitable, 98 per cent of the 508 men who still owned their original trucks having stated that they expected to use them during 1922. In reply to the question as to whether they intended to buy others when their present machines were worn out, 85 per cent gave affirmative answers."

The selling of transportation to the farmer who has not heretofore owned a truck is going to be the dealers' biggest and most difficult problem. The farmer may admit that truck transportation would be helpful to his business, but un-

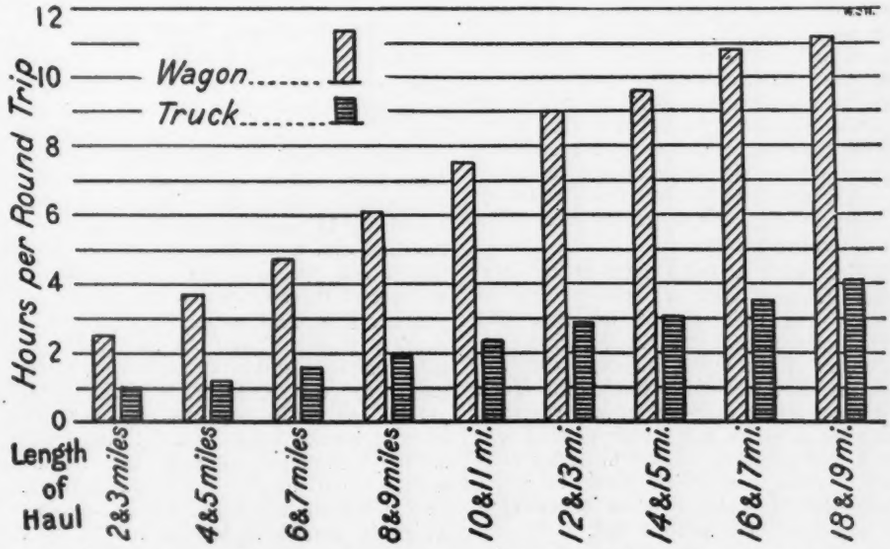



**Chart Showing Comparison of Time Required for Hauling Different Distances With Wagons and With Trucks, From Bulletin 1314**

til its real merits are brought to his attention he will remain "unsold."

George R. Chatburn, in his recent work, "Highways and Highway Transportation," has cited the following excellent arguments in favor of the farm truck:

"(a) The motor truck allows the farmer to haul larger loads, longer distances in less time, thus reducing the actual cost of haulage.

"(b) That he can better take advantage of market fluctuations and thus be able to sell at high markets.

"(c) That a truck on the farm will replace several horses; that the cost of keeping these horses far exceeds the cost of keeping a truck.

"(d) That the truck may be used to market produce while the horses are busy in the field.

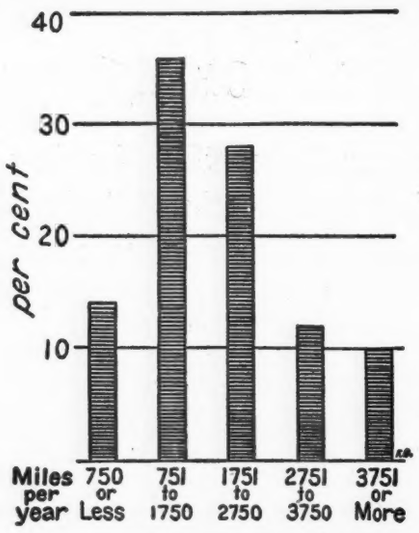
"(e) That the truck will allow land otherwise too far from the market to be farmed with perishable but better paying crops.

"(f) By means of trucks the farmer is often enabled to put his hogs or other live stock on the early morning market in less time from the farm and consequently fresher, gaining the advantage of better prices."

It is significant that in the reports to the Department of Agriculture, the saving of time, was the important factor as can be seen from the following extract: "In 1922, 93 per cent of the owners reported that the saving of time was the principal advantage, and in 1920, 90 per cent of the same owners gave the same reply. There are other advantages, of course, but evidently this is the principal one in the minds of the truck owners. Very few report that the principal advantage of the truck is that it enables them to go to a better market, but 33 per cent of the total number now use other markets than before the purchase of their trucks. Going to a market which is farther from the farm is simply a matter of taking more for marketing, and a considerable number of men who say that saving of time is the principal advantage find that the trucks saves them sufficient time to enable them to go to the better market. Reducing shrinkage when marketing livestock, which is often mentioned as one of the big advantages of a motor truck, is also largely a matter of reducing the time required for getting the stock from farm to market.

"That such a small number consider other factors, such as the saving of horses, the reducing of expense, and added convenience, as the principal advantages of the truck, indicates that the amount of time which the motor truck will save, which may incidentally result in reaching a better market or getting live stock and crops to market in better condition, is the item which should be given paramount importance when considering the purchase of a motor truck.

Since the use to which a truck can be put varies with the locality, it is the duty of the dealer to study the farms of his




**Interesting Chart Showing Percentage of Motor Trucks Which Travel Different Distances per Year. From Bulletin 1314**

own community. In Colorado, for example, the farmer uses his truck to haul to market such items as grain, hay, sugar beets, fruits, live stock and farm products as well as using his vehicle for dragging roads and a multitude of minor uses. In New Hampshire trucks have been hauling silage, although the results have not been as profitable as might be expected. In Pennsylvania farmers are employing trucks in the hauling of lime from the kilns with good results. Farmers' Bulletin No. 1314, stated further that while all of the men whose reports formed the basis of the bulletin, used their trucks primarily for their own hauling, about 37 per cent did some hauling for hire during the year preceding the time of reporting. Nearly all truck owners doubtless have opportunities to do truck hauling with their machines if they desire to do so, but a farmer cannot often neglect the work on his own farm to do work for his neighbors. However, if his whole time is not fully occupied, a truck owner can easily increase his income by hauling for hire.

### Trucks Reduce Labor Costs

The government investigation showed that the truck caused a saving in hired labor in the majority of cases. Of the 783 men who answered the question, whether or not his truck reduced the expense for hired help, 612 or 78 per cent, said that the truck reduced his expense, and the remaining 171 said that it did not. Three hundred and eighty-five of the 612 estimated the amount thus saved and the average of these estimates was $209.

Mark Havenhill, extension engineer in charge, Kansas State Agricultural College, made the following significant statement to the COMMERCIAL CAR JOURNAL: "In my travels over the state of Kansas I find that the auto truck is very rapidly replacing the middle weight road horses for road hauling. The Fordson truck of 1-ton capacity, which is usually loaded up to 1½ to 2 tons, seems to be the most popular truck in the rural district. * * * The class of farmers using these trucks is the grain farmers who have long hauls and bring back feed. In the western part of the state, where the wheat used to have to be hauled with horses, I do not believe that more than 10 per cent of it is not marketed with teams and wagons.

"The commercial hauling in and around the larger cities such as Kansas City, Topeka, Emporia, Wichita, Hutchinson, Independence, and Pittsburg is done in heavier trucks, running from 2 to 4-ton capacity. * * *

"I believe the advantage of the truck in the rush season is apparent to practically all farmers, and I think it will only be a question of time until a very large percentage of the farmers in Kansas will be equipped with a truck for their road hauling."

## Midland Steel Products Placed in Dominant Position

Further announcements on the consolidation of the Parish & Bingham Corp., and the Detroit Pressed Steel Co., reveal the fact that the new concern, to be known as the Midland Steel Products Co., will have a capital stock of $10,000,000 eight per cent participating preferred stock, 50,000 shares of no par common and a bond issue of $2,500,000 which is a first mortgage sinking fund convertible seven per cent gold bond issue.

The combined plants have 27 acres of land and 607,661 sq. ft. of floor space in buildings. The employes number in excess of 2000.

In commenting on the business of the new company, E. J. Kulas, president of that concern, said: "The company in 1922 did about 25 per cent more business than any other automobile frame manufacturer in the world and has the distinct advantage over any other frame manufacturer in that it has two plants, one located in Detroit and one in Cleveland, two of the largest automobile centers. The company is now doing a volume of business at the rate of from $17,000,000 to $18,000,000 a year."

On January 1, E. J. Kulas was elected president and general manager of the Parish & Bingham Corp., succeeding Mrs. Agnes D. Morse, and has been assisted in a reorganization of the company by Ralph H. Clarke, formerly of the Cuyahoga Stamping and Machine Co., and the Apex Electric Manufacturing Co.

Officers of the Midland Steel Products Corp. are E. J. Kulas, president; C. H. L. Flinterman, vice-president; Gordon W. Stoner, secretary, and R. H. Clarke, treasurer. The directors of the company are F. H. Ginn; G. A. Coulton, E. J. Kulas, C. H. L. Flinterman, Frank Tillotson and F. Ward Paine.

The general offices of this company will be in Cleveland at the plant of the Parish & Bingham Corp.

## Inaugurates New Bus Route

The Chicago Motor Coach Co., which is increasing its fleet of buses at the rapid rate of three a week, has inaugurated its third south side route, bringing its normal daily passenger capacity to 100,000.

# Service All Trucks, Sell One Make, and Build a Real Business

## A Reputation Gained by Giving Good Service Makes Truck Selling Easy. How One Dealer Has Built Up a Good Business Slowly But Profitably

By A. V. COMINGS




Salesroom of I. H. Gingrich & Sons, Grand Rapids, Michigan

PROFITABLE sale of Federal motor trucks, built on the profitable servicing of **ALL** makes of motor trucks, has built a very comfortable little fortune for the Gingrich family, of Grand Rapids, Michigan, in **three years.** I say Gingrich family, because the Federal is sold in Grand Rapids by I. H. Gingrich and five sons. That's a pretty good combination.

Thirteen years ago, I. H. Gingrich started repairing motor cars and trucks. His repair shop was 24 feet wide and 54 feet long. He was a good mechanic and he turned out excellent work.

Three years ago he took on the Federal franchise. But did he look for a big, plate glass front show room? He did **not.**

He knew that good service was the first requisite for permanency in the motor truck business, so he built a fine service shop 50 feet wide and 100 feet long and put into that shop the very best machinery he could get for servicing motor trucks promptly and accurately. There was a little room up in one corner for showing motor trucks.

His first concern was to keep Federal trucks on the road giving full value to their owners.

But he was far sighted enough to know that if **all makes of motor trucks** in Grand Rapids were well serviced, more users of motor trucks in Grand Rapids would boost for them, they would perform more economically, and his sales would come easier.

Some of the other dealers in Grand Rapids were not so well fixed to service their motor trucks, so Gingrich went after the service on all makes, not only to keep his workmen busy, but to keep those other trucks running, to get acquainted with their owners, to **serve them so well that when they wanted a new truck they would buy from him.**

Was that good business, to keep rival trucks in good repair?

I know it hasn't been considered so by a lot of truck dealers, but it sure has proved good business for Gingrich.

The other dealers had the same opportunity to give good service, but Gingrich seemed to get the work. And it was not by cutting prices, either.

### He Bought Up Surplus Parts

To give good service Gingrich had to have parts. These he got in a variety of ways. Whenever a truck dealer in the Grand Rapids territory went out of business, Gingrich looked over his stock of parts, axles, engines, etc., and usually bought them at a nice discount—fine for repairs on that make of truck. And when he took in another make of truck in trade for a new Federal, he almost always junked it, and saved the worth while parts for future service of that make. He junked **fourteen** used trucks last year.

"So many truck dealers think they have such a large discount on their trucks that they can give away most of it in bad trades," said A. J. Gingrich, one of the sons, to me. "Then they have to skin some one on a used truck that isn't any good, to break even. The man that's skinned is sore, and you have no chance ever to sell him a new truck. You can't build business that way. So we take in the old truck at its fair value, junk it, and get our money out of the parts we use in service. We don't use these parts as new, we tell our customer just what we are using, and never use an old part unless it will perform satisfactorily."

There's a lot of good, hard business building sense in that statement.

A. J. Gingrich has charge of sales. "We have grown up in this business," he said, "and we know service and parts on all trucks. If we don't happen to have the part necessary to repair another make of truck, we know where to get it. Repairing all makes of trucks gives us the chance to sell the owner a new truck when he is in the market for it. We have served him well, we have kept his truck running for him, and we are the ones who have the inside track when it comes to buying the new truck. He doesn't forget that we are the ones who have helped him out and kept his truck earning money when he was in trouble and would have been laid up otherwise.

### The Value of Satisfied Customers

"We have sold many trucks without even having to solicit the business, just on our past record of servicing those owners' other types of trucks. One of our owners




**The Gingrich Service Wagon, and Entrance to the Service Station**

is using eight Federals, purchased one after another because we have kept them all in good shape. Around Hudsonville, a little town of 500 near here, we have thirteen Federals running, all of which were sold because we kept the owners' former trucks going. In just one case in three years have we failed to get the repeat order. Our country owners boost for us, because a man out in the country wants his truck on the road, and that's where we have kept them, irrespective of their make.

"We are careful to sell only to responsible parties, for we know that not everyone who wants to own a truck can pay for it, no matter how rosy his prospects may seem. So we don't sell them unless we are pretty sure of our money. In our three years' experience, we have had to repossess just one truck."

A year ago Mr. Gingrich and his sons decided it was time to expand. They added a storage or garage section to their facilities, 50 ft. by 100 ft., and in front of this a 38 ft. by 40 ft. sales room, not elaborate, but big enough to display three models attractively.

Offices and parts stock are on the second floor of this sales room, with stairway connecting to the storage space and shop.

There's a large blackboard chart on their sales-room wall, on which is shown by model number and by month, every truck sold since the Federal franchise was taken. Each year's quota is shown in a different color, so that the customer can see for himself the constantly increasing sales. A good sales argument.

This chart shows that in 1920 they sold 24 Federals; in 1921 they sold 30, and in 1922 the mark was 50. By the early part of April of this year they had sold 13, so 1922 looks like a bigger year than any of the others.

They have a list of 220 good prospects to whom are mailed sales matter at stated intervals. Personal calls follow these up regularly.

The service shop is managed by Walter Gingrich. Its equipment includes Rees and Weaver truck jacks, Black & Decker electric drills, two drill presses, arbor presses, a shaper, emery wheels, power metal saw, oxy-acetylene cutting and welding outfit, an eight foot lathe with an 1-in. swing, overhead trolley and chain hoists, and a forge.

They do not regrind cylinder blocks, but keep several reground blocks on hand, which they place in trucks which are in for service, charging only for the regrind job. The truck's own block is then sent to Continental factory for regrinding.

Believing in full service to the truck owner the Gingrichs have recently taken on the full line of Kelley-Springfield truck tires, have put in a hydraulic press, and will give tire service along with the mechancial service that has proved their biggest asset.

The Gingrich family started selling trucks three years ago with practically no capital. Today they have a fine service and sales building, are rated as well up toward a hundred thousand, and their prospects in the truck business are very bright indeed.

Maybe that idea of theirs, that **all makes of motor trucks are worthy of service** had something to do with their success.

I heartily commend a careful reading of this story to those truck "dealers" who say that business is rotten, that a truck dealer can't make a living, and that there's no future in the business. Maybe there's been something wrong with this type of dealer.

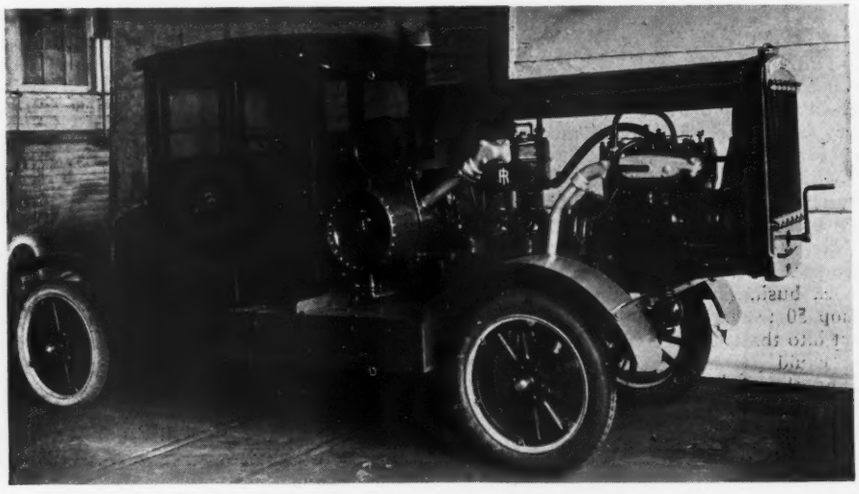
Think it over.

## General Motors Truck Subsidiary in Canada

The General Motors Truck Co. of Canada, Ltd., has been formed as a subsidiary unit of the General Motors Truck Co. of Pontiac, Mich., with headquarters in Oshawa, Ont.

H. H. Henchel has become district sales manager in charge of the Canadian unit. It is the intention of this unit to combine the resources of the General Motors Corporation of Canada, Ltd., and the truck company, so that more intensified merchandising of GMC trucks in the Dominion of Canada may be carried on at once.

This new unit will act as a subsidary of the parent company in Pontiac, and will be in charge of the distribution of all trucks in Canada.



**Truck Mounted Portable Air Compressor**

**A new development in portable road building machinery is found in this air compressor, mounted on a standard Ford truck, which has just been introduced by the Ingersoll-Rand Company, 11 Broadway, New York. This company has built a complete portable air compressor plant in such a way that it can be mounted on the standard Ford chassis without any alterations in chassis. The air compressing plant consists of a two-cylinder, vertical compressor, direct-connected to a four-cylinder, four-cycle, tractor type of gasoline; a radiator and fan for cooling the water for both the compressor and engine; an air receiver; fuel tank and other accessories. A regulator is furnished for automatically throwing the load off the compressor when a predetermined maximum receiver pressure is reached and throwing the load on the compressor at a predetermined minimum pressure. Tool boxes are attached to the steel frame.**

# Central Stations Co-operating With Dealers and Owners of Electric Trucks

## *Greater Interest Shown by Purveyors of Electric Current. Unit and Equipment Manufacturers Will Place Electric Truck in Its Rightful Place in Highway Transportation Field*

IT is quite evident that the electric truck industry and its allied branches, have reasons to be optimistic as to the future of electric truck transportation, for not only have electric truck sales shown a healthy growth during the past year, but there are many signs in evidence of well co-ordinated effort on the part of all concerned to merchandise and render service on a stable basis.

It is quite apparent that the electric truck manufacturer has profited by past experiences and has realized that there is something besides the mere sale of the chassis to be considered. He has discovered that he can no longer build the chassis and pass the vital subject of battery, charging and service along to some one else. He must "follow through." When this is done **success** is bound to follow. **It was not done** in years gone by and resulted in setting back the development of electric transportation.

The more progressive manufacturers have profited by the past and have enlisted the co-operation of the central stations, which are the lighting companies that merchandise electric current. The truck manufacturers had the co-operation of the central stations many years ago, but lack of foresight on the part of those most vitally interested in the welfare of the electric truck developed sales resistance, and much misunderstanding, which was destructive to the interests of the industry as a whole.

But that condition has disappeared to a very great extent for there is a concerted effort shown on the part of the truck manufacturer, battery maker and the central station, to co-ordinate their efforts so that the truck will be sold right, used right and serviced right. The tendency of the industry is towards building a solid foundation for the future, as it were, rather than attempting to concentrate on production and sales with no consideration of the volume that is best attained through satisfaction with the product.

It is interesting to note, that the electric truck industry has gotten away from selling the electric truck as the most simple transportation unit, a construction that anyone can operate with economic success. The electric truck is simple in operation, but in the past its simplicity has been greatly exaggerated. Some very absurd claims have been made for it. For example, the salesman would inform the prospect that a driver of a coal team can learn to operate a truck quickly and needs no knowledge other than starting and stopping. Many failures of the electric truck to satisfy in the past can be traced to such and similar causes.

To obtain the results desired, i.e., eco-

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**ELECTRIC VEHICLE GARAGE AGREEMENT**

**COMMONWEALTH EDISON COMPANY**
**72 West Adams Street**
**Garage: Morgan Street and Jackson Boulevard**

**Contract No.**.....

CHICAGO, .....19.....

The Undersigned....., (hereinafter referred to as the vehicle owner), requests Commonwealth Edison Company (hereinafter referred to as the Company), to furnish garage service, in accordance with the terms hereof, for the following electric vehicles:

| Number of Vehicles | MAKE | Capacity in Pounds | Owner's Number | Manufacturer's Number | BATTERY | | | Number Square feet of Floor Space | Floor Space Cost |
|---|---|---|---|---|---|---|---|---|---|
| | | | | | MAKE | Number Cells | Type | | |
| | | | | | | | | | |
| | | | | | | | | | |
| | | | | | | | | | |
| | | | | | | | | | |

The vehicle owner agrees to be bound by this agreement until terminated in the manner herein provided; to pay for the service requested monthly, at the rates stated below; and further agrees that the service to be furnished by the Company hereunder shall include only the items of service specifically enumerated below.

**RATES FOR GARAGING:** 25 cents per month per square foot of floor space actually occupied by said vehicles as above specified; plus 5 cents per kilowatt-hour for all electricity consumed in charging the batteries of said vehicles. Bills will be rendered monthly, and shall be paid within 10 days after their rendition.

**SPECIFICATIONS OF SERVICE:** Service hereunder shall consisit of housing, washing once a week, oiling and greasing, monthly inspection of trucks and batteries, flushing and regular charging of batteries. The Company will keep for the vehicle owner's inspection a daily and monthly record showing mileage and current consumption of each vehicle.

Service hereunder shall not include repairs to vehicle or battery nor other service of any kind except that above specified. Repairs will be made by the Company only upon the written order, and at the expense of, the vehicle owner.

In case of any question regarding vehicle call Mr. .....,Phone. ....., No. ....., or Mr. .....

Phone. ....., No. .....

The terms and conditions, printed on the back hereof, are hereby made a part of this agreement.

.....
(Vehicle Owner)

This agreement shall not be binding upon the Company until accepted in writing by General Contract Agent.

By .....

Accepted.....19.....

Title .....

COMMONWEALTH EDISON COMPANY,

.....
(Address for Bills)

By.....
General Contract Agent.

.....
(Address for other Communications.)

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**Note the "Specifications of Service" Clause**

**The central station Electric Vehicle Garage Agreement for service of the electric truck as supplied by the Commonwealth Edison Company, of Chicago**

nomic and dependable electric truck transportation, requires **intelligent operation** plus a **reasonable amount of common sense attention.**

One does not have to be an electrical engineer nor be versed in the technicalities of the various components to operate intelligently, but if 100 per cent efficient results are desired it is important that operators and those who care for the units understand the elementary principles underlying the ordinary applications of electricity, the manner in which electricity is measured and paid for, and the use and care of storage batteries.

It is at last recognized in the electric truck industry that trained operators make it possible for the electric truck owner to obtain economic transportation. In other words, the industry is presenting the owner of an electric truck with the opportunity to have his men trained. The prospect also is given similar advantages. For instance, in the city of Chicago, in January of this year, through the Board of Education, a free course of instruction on storage batteries and electric trucks was given, the course extending over a period of eight weeks. Truck owners and those interested, were invited to send their employes. Experienced teachers were supplied, and the Commonwealth Edison Company detailed one of its engineers to advise and teach. The company also supplied a 1-ton chassis and the Walker Vehicle Company an electrically lighted diagram of truck wiring. Complete equipment and all instruments employed in operating and charging were available. The school was a marked success and the advantages to the truck owners are obvious.

The Automobile Bureau of the New York Edison Company operated a similar school. A review of this and an outline of the subjects presented were made in the May issue of the COMMERCIAL CAR JOURNAL. It is interesting to note that while the New York school was composed of representatives of the central stations that the class voted that the instruction on transportation engineering was the most popular and urged that more complete and detailed instruction be given on this important subject in future training. Chicago will hold a similar course this month and San Francisco is to follow suit. It is very probable that similar schools will be held in the most important centers.

### Central Station Will Co-operate With Dealer

The central stations are appreciating the growth of electric truck transportation and a number are following the example of New York, Chicago, Boston, Hartford, New Orleans and Los Angeles in establishing electric truck departments under the supervision of trained experts. These central stations are co-operating with the dealers to a very marked extent in not only promoting the merchandising of trucks but in the intelligent operation, care and maintenance.

The central station can also be of great aid to the dealer by supplying him with leads and assist in closing sales.

It should be borne in mind that the central station sells current and therefore, it is interested in the promotion of electric trucks. Many of the central stations use electric trucks, and where there is co-operation between the central station and the truck manufacturer, plus the dealer, sales have been in proportion to the effort expended.

From the above it is obvious that those considering the merchandising of electric truck transportation **are assured of co-operation from the start to the finish.** The dealer is assured that he will have the aid of the central station, battery maker, charging equipment manufacturer and the maker of the truck.

The Commonwealth Edison Company, of Chicago, for example, supplies the services of its experts to the dealer and owner on care and maintenance. A diagram is also supplied showing 45 of the company's sub-stations and public electric garages where service is rendered. One of the public garages of the company has a capacity of 100 vehicles.

As has been previously stated by the writer, the purchaser of his first truck or two can rely upon the service garage until such time as he desires to establish his own. An accompanying form gives details of the garage service. This service is being very highly developed and it is possible in at least one city for the owner to contract for a battery service on a "mileage basis," the details of which will be given in a forthcoming article.

# Jobbers All Set for A. E. A. Convention

WHEN the members of the Automotive Equipment Association and their guests gather at the Balsams, Dixville Notch, N. H., June 25-29 for the summer convention they will find that every preparation has been made for their comfort and convenience by the New Englanders. This organization, which comprises New England A. E. A. members, jobbers and the Boosters Club, N. E. No. 1, has been actively engaged since last December in formulating a program of service for the visitors.

Eight committees, the chairmen of which comprise the advisory committee, were appointed by Frank T. Chase, chairman, to arrange the varying details, and the activities of these have been set forth in a bulletin termed the New Englanders which has been mailed to all A. E. A. members. From time to time the various committees have mailed members maps, literature, circulars, etc., dealing with New England with a view of assisting the visitors in selecting places of interest both before and after the convention.

Inasmuch as New England has many automobile manufacturers, and many jobbers, many of which are members of the A. E. A., it has been suggested that the visitors so arrange their itinerary that they may be able to call at the various plants many of which are on the various routes to and from the Balsams. Lists with addresses of the makers and jobbers have been supplied.

The map committee has been most complete in its labors and a large number of up-to-date maps and routes have been mailed. Those visiting Boston will be offered the hospitality of the Old Colony Club from June 15 to July 15 through the courtesy of Frank T. Chase. Arrangements have been made with the club to care for reservations. The New England Hotel Association has supplied cards which, if used by the visitors, will insure accommodations.

The insignia committee, headed by M. T. Rogers, will supply a very neat oval pin, also a decalcomania for attaching to the windshield of the car. The same committee will send to all dealers, service stations, garages, repair shops, etc., a large sheet explaining what the A. E. A. convention is, also a four page letter given a resume of the A. E. A., what it has accomplished and its plans to assist the dealer in merchandising. There will also be mailed a broadside giving statistics of the industry, particularly those dealing with New England.

Since the organization of the New Englanders the traveling salesmen of the manufacturers and jobbers have been actively engaged in selling the trade on what the convention means to New England. It is said that the response has been highly gratifying and that the visiting A. E. A. members will have an opportunity to check up on the merits of the "Ask 'Em to Buy" campaign.

The committee selecting the Balsams is to be congratulated on its choice, for Dixville Notch is representative of the unusual attractions of New England's famous mountain resorts. Located 2000 ft. above the sea, and comprising an estate of 2600 acres, it offers an unusual range of out-of-door sports and pastimes. The Balsams is but seven miles from the Canadian border and good roads lead to Montreal and Quebec.

Judging from the reservations made, the convention will not only have a record attendance but a large attendance of jobbers. The various committees of the New Englanders are as follows:

Chairman, Frank T. Chase; secretary, Alfred Butman; treasurer, Wallace G. Page. Name committee, L. E. Moore, chairman; F. B. Waters, L. H. Woodruff. Insignia, M. T. Rogers, chairman; G. A. Barnard, A. L. Hunt. Maps literature, etc., F. Marsena Butts, chairman; J. H. Brooks, T. R. Sternberg. Entertainment, Hirman Chaffee, Jos. Creamer, W. C. Scott, E. T. Hutchinson, H. F. Whitney. Dealers', Elmer Littlefield, chairman; T. A. Cotter, J. F. Miller. Publicity, Hiram Chaffee, chairman; Stoughton Bell, L. H. Woodruff. Souvenir, Thomas F. Wilson. Service, L. E. Moore, chairman and advisory committee.

# Big Market Seen for Electric Truck

## *Delegates Who Attended Electric Truck Session of N. E. L. A. Convention Voice Need for Greater Co-operation of All Connected With Electric Industry to Promote the Electric Truck*

By ALBERT G. METZ

NEW YORK CITY, June 4th.—This afternoon the first sessions of the National Electric Light Association Convention were held in the Hotel Commodore. The Electric Truck Session was exceptionally well attended and one of the outstanding facts noted, was the renewed interest displayed by representatives from central stations in the electric truck. One point that was stressed by Charles S. Morris, in his address, "Lowering Transportation Costs by the Use of Electric Trucks in the Warehouse Industry," was the need for more adequate service on the part of some central service stations. He contended that service was the most important thing which the industry should develop from now on. He reviewed the great progress that has been made in the field, and that with all the improvements that have been made, one more feature should be added and that was adequate service. He complimented the New York Edison Company on the wonderful development work it was doing also the work done by the parts manufacturers.

### Electrics Making Big Strides

Charles R. Skinner, Jr., Chairman of the Electric Truck and Car Bureau, made a comprehensive report of the work that has been accomplished by the bureau, and its present activities. The committee is very enthusiastic regarding the future of the electric truck and outlines the basis for the reason of its enthusiasm in a few brief paragraphs, which follow:

"Manufacturers of electric trucks and component parts never have been so busy in the history of electric truck manufacturing. Many of them are now working on double shifts. The result of this is that electric trucks, for the first time in the history of electric truck transportation are now being sold on advanced delivery dates.

"Despite the fact that they are so busy, manufacturers of electric trucks and component parts are conducting extensive, well-planned advertising campaigns.

"Central stations, appreciating the growth in electric truck transportation business, are following the lead of New York, Chicago, Boston, Hartford, New Orleans and Los Angeles in establishing departments equipped with the necessary expert talent to give advice on problems connected with electric truck transportation.

"Manufacturers of a number of gasoline trucks are investigating the possibilities of electric truck business and we may confidently look to a number of them entering this field, following the excellent example of the Autocar Co., which, for twenty-five years a prominent manufacturer of gasoline trucks, has recently placed an electric truck model on the market."

### More Electrics Being Purchased

The report further indicates that the executives of the central station are giving more attention to the electric truck than they have in the past which statement can be substantiated by the fact that during the past twelve months, public utility corporations have purchased approximately 200 electric trucks.

Col. John Stilwell, of the Consumers Gas Co., New York City, gave an address, entitled, "Supervision of the Motor Truck Equipment of New York Utility Companies." He recalled the early history of the companies and how they had to depend on horses for all of their trucking, and how gradually the electric and the gas truck were adopted. "We found," he said, "that both the electric and the gasoline vehicles in their particular fields were far cheaper than the horse. In short haul city delivery work the economy of the electric was very pronounced. For instance, the transportation charges against one department in 1913 when it was horse equipped amounted to $98,525,12. This department was completely equipped with electric trucks in the year 1917 and the total cost of cartage for the year was $55,403.53. This showing is the more remarkable when the increased business during these five years is taken into consideration. In reference to this saving I wish to lay stress on the factor which I believe has as much bearing on economical transportation as anything else. This is the selection of the proper type of vehicle, gasoline or electric, and the make and body specifications for the particular work to be done. Any time or money spent on a thorough investigation of the requirements before purchasing is amply repaid by the results obtained from using the vehicle best adapted for the particular service."

In his address Mr. Stilwell also discussed the relative speeds of the electric and gasoline trucks and contended that while the speed of the ungoverned gas truck is faster than the ordinary electric in not be used He stated "that in any large fairly level city with traffic conditions such as they are today there is practically no difference in the effective speed of the two types of vehicles. I do not wish to a great majority of cases this speed can-leave with you the impression that the gasoline vehicle has not its own proper field of activity as well as the electric. The New York Lighting Companies use a large number of gasoline trucks in the suburban territories where the runs are long and the hills are steep and road conditions leave much to be desired, but for work in New York City we depend almost exclusively on the electric."

William Van C. Brandt, Manager Motor Power department of the Electric Storage Battery Co., Philadelphia, gave a very interesting address on the subject of the "National Increase in the Use of Electrical Trucks."

"With proper selling effort put forth," said Mr. Brandt, in the interest of the electric truck by the entire electrical industry, which would be benefited by the sale of electric trucks, the potential possibilities which now exist can be turned into actualities.

"If the total possibilities could be realized 70 per cent of the vehicles operating in the city and suburban delivery service would be Electrics, but looking at the matter from a most conservative point of view and considering that but 10 per cent of the actual possibilities can be realized and that it will require ten years to achieve this result, this would mean the sale of one hundred thousand electric trucks during the next ten years, or ten thousand trucks per year.

"What would this mean to the electrical industry? It would mean, for instance—

> "The sale of six hundred million K. W. Hours of off peak electric current per year for charging batteries, which, at four cents per K. W. hour would amount to Twenty-four Million Dollars ($24,000,000.00) revenue per year to the Central Station industry.
>
> "To the truck manufacturers it would mean approximately Twenty Million Dollars ($20,000,000.00) sales per year.
>
> "To the storage battery industry from Ten to Fifteen Million Dollars per year for new trucks, to say nothing of the additional amount of sales for battery renewals.
>
> "To the manufacturers of auxiliary electrical equipments, such as charging apparatus, motors, etc., the sale of approximately Three Million Dollars ($3,000,000.00) per year."

E. S. Mansfield, Chairman of the Electric School Committee, outlined the plan of education that has been undertaken by the central stations and which program had the whole hearted support of the manufacturers, who contributed much valuable information. The program followed by these schools was given in the May issue of the COMMERCIAL CAR JOURNAL.

# Determined What They Could Do, Then Did It

## *By Analyzing His Business, This Truck Dealer Boosted His Sales to More Than One a Day*

By D. G. BAIRD

"I WANT to sell motor trucks; there is a demand for motor trucks in this territory; I have a good product; therefor I will sell motor trucks in this territory," reasons one dealer, and having reached this conclusion, he employs salesmen and sends them out with the one order: "Get the business."

Another dealer sits down and analyzes the situation carefully and deliberately. "How many trucks can be sold in my territory this year?" he asks himself. "Of this number, what per cent may I depend on selling? Just what competition have I to meet? What can I do to solve the used truck problem? How much capital shall I need and how shall I distribute this? Just how shall I go about the matter of getting my share of the business? What attitude shall I adopt toward my customers and users? How shall I train my salesmen?" Then, having reached definite, conservative conclusions, **he discounts his estimates heavily, determines just what to do and how to do it,** and sends his salesmen out with definite instructions how to get the business.

That the latter is the better plan is strikingly illustrated by the recent experience of the Thompson Auto Company, Detroit distributors of Federal motor trucks.

Thompson's is not a new organization. It has been selling trucks in Detroit for several years, during which time it has passed through periods of prosperity and of depression. Always it has been a going concern. But the truck business has not been very flourishing for the past year or so, and it was at the beginning of the present year that the executives of this company determined just what they could do, then set about doing it.




**What an Analysis Disclosed**



**J. C. Ayers**
Vice-President Thompson Auto Company, Detroit distributors of Federal Trucks

### Thorough Market Analysis

"Our first step was to analyze our market," explains J. C. Ayers, vice-president of the company. "We studied statistics, present conditions, and forecasts of future conditions, and arrived at the conclusion that Detroit would take 5,000 motor trucks this year. This we considered a very conservative estimate. Next, we carefully estimated the competition that we had to meet. We considered these individually and collectively; their products, their house policies, their selling methods, and their former sales as compared with ours. One company was going out of business, while another was just entering our territory. It seemed reasonable to suppose that we could get 10 per cent of the business, which meant 500 trucks. One has to discount such estimates, however. Mr. Thompson wanted to halve this figure, but it seemed to me that we should sell 400 at the least. At any rate, we had every reason to believe that we could sell not less than 250 trucks this year.

"Then we tackled the used truck problem. What's wrong with the used truck market? Certainly there is a demand; why can't we sell used trucks as fast as we get them? One by one, we took up the objections which we knew to exist and determined upon the proper steps to meet them.

"For one thing, there are too many 'gyps' in the used truck business. All right, we'll come right out in the open in all our deals and will build up confidence in our policies.

"For another, a lot of the stuff that is being sold as used trucks is no good. We will therefore overhaul our used trucks and make them good. If anything goes wrong with them after they're sold and the buyer becomes dissatisfied, we'll take them back and refund the money or sell them another truck.

### New and Used Truck Service Departments

"Again, there is usually no service to be had on a used truck at the place where it is bought. We separated our service department into new and used departments and keep them entirely divorced one from the other. A used-car mechanic is not allowed to work on new trucks, while new-truck mechanics are not allowed to work on used trucks. We try to specialize, in other words, by employing men who are especially qualified for their particular jobs.

"Furthermore, there existed a great deal of close trading in used trucks, many dealers being willing to take a loss on a used machine for



**Picking the Right Prospects**

the sake of selling a new one. We determined to take no job on which we could not make a legitimate profit. When we take in a used truck, we immediately add 25 per cent on the allowance to cover us on reconditioning it, insuring it, and carrying the paper after we sell it. We don't make any bones about letting our customers know that we are doing this.

### Salesmen Are Specialists

"Finally, we felt that there was room for considerable improvement in the selling methods used. For one thing, used truck salesmen should be specialists on used trucks and new-truck salesmen should not be allowed to sell used trucks, and vice versa. It takes men of different type, or at least training, to be successful in either field, and to dabble in both only confuses one's selling methods. We also felt that selling used trucks should be just as dignified and honorable as selling new trucks and the methods used should be just as honest.

"Perhaps it will be well to illustrate the working of these policies before passing on to the other details of the analysis. Much of the distrust in the minds of used truck buyers has been caused by the dealer's hedging around and trying to make a little profit, or at least to break even, while at the same time making his customers think he's losing money on the deal. We come right out and tell our customers that any time they buy anything in here, we're making money on the deal! Not only so, but we tell them just how much we're making and how we figure it. As I've already said, we add 25 per cent to the allowance on a used truck. We tell our customers so, and we explain what becomes of the 25 per cent.

The other day we took in a used truck at $1500 and a few days later we sold it for $2200. The man from whom we had bought the truck came in just about the time, and we told him just what we were doing. We told him what the deal cost us in each respect; reconditioning, insurance, selling, and carrying the paper on the time deal; then we told him he might take the deal himself and sell the truck for the $2200 or we would give him a check for $1500. He took the check and was mighty glad to let us have the $2200 sale. But here's the point: If we had sneaked around and tried to cover up things and then this man had learned that we had sold his used truck for $2200, while we only allowed him $1500 for it, he would have sworn that we are a bunch of crooks and would have gone out and knocked us. As it is, everything is out in the open and he is a booster for us.

### All Used Trucks Are Reconditioned

"We recondition all our used trucks and we take them back if they don't prove satisfactory, but we don't make any extravagant claims for them. We tell our customers that we have reconditioned the machines and that so far as we know, they are in good shape; that if anything goes wrong and they're not satisfied, we'll exchange them or refund the money. We have to take back some on this proposition, but our frankness has served to establish confidence in the mind of the user, and frequently he will have some little repairs or adjustments



When Sales and Service Get Together

made when his truck goes wrong and will keep it, whereas if we had adopted the usual methods in selling him, he would have nothing more to do with us.

"Recently a rather refined young man came in to buy a used truck with the expressed intention of working it on a dump. We rather doubted his being able to make good on such a job, but he took the truck and tackled it. In a few days he came in and said the truck wouldn't do the work. We sent one of our men out with him and demonstrated the fact that the truck would do the work, but it was a pretty stiff job, so we got the young fellow a job hauling cinders. He tried that a little while and got sick of it, so we took back the truck. A day or so later we sold the same truck to another man who is using it on the same cinder job right now and is making money with it.

"In this way, we are solving the used truck problem. One of our used-truck salesmen was threatening to quit about the time we made this analysis and inaugurated our new policies. He made more money last month than most salesmen make in a year and he's just getting well started! We have already sold seventy-five used trucks and are selling others as fast as we get them in—usually before we have time to recondition them.

### How the Financing is Handled

"After analyzing the used truck problem, we next turned to the matter of financing. We determined just how much capital we should need, then how this should be apportioned. There was so much for operating expenses, so much for time deals, so much for used trucks, and so on. In order to get the greatest use of our capital, we discount all our bills and insist on a liberal down payment on all time deals. We arranged with the factory to keep a small number of trucks coming through all the time and avoided tieing up a bunch of money in trucks standing idle in the salesroom. We mapped out plans for keeping in close touch with delinquents, so that they would never be very far behind in their payments. We write off allowances on used trucks as soon as the deals are made. Finally, we established a closer relationship with the bank by arranging to have it send a man up to go over our books at regular intervals. We consider this a good safeguard for ourselves, apart from the fact that it makes our credit at the bank all the stronger.

### Getting the Prospects

"Having gone this far, the next problem was how to get prospects and how to sell them. I had just joined the organization and taken charge of the sales end of the business. Perhaps the usual thing would have been for me to get the salesmen together in a series of pep meetings and try to bunco them into going out and making a blind fight for business. I have been here over three months and we had our first sales meeting last week. Instead, I took the men out to lunch, one by one, and talked things over with each individual. I didn't try to kid them in the least. I might add, just here, that all our salesmen are salesmen, not kids. We are convinced that it takes men of some experience, character and dignity to sell trucks successfully. All have taken the course in selling given at the factory and we provide complete information for reference purposes for each one.

"We did many little things to increase the dignity of the salesman's position and to make his work easier and more enjoyable. For one thing, we never have the salesman drive a truck to the place of deliv-

ery. We send along a driver, leaving the salesman to do nothing that would possibly compromise his dignity and position in the least.

"Pay-day comes on the day that a settlement is received. We write out a check in full for the salesman immediately, and the full commission is his, whether or not the deal sticks. That is, if we should have to take back the truck a week or so later, or at any other time, that is no concern to the salesman.

"Having made all our plans and acquainted our salesmen with them, we went out and canvassed all our users, both by mail and by personal calls, getting new prospects and ferreting out cases of dissatisfaction. Wherever we found the latter, we made good at any cost. We also adopted a seasonal schedule and launched a direct-by-mail campaign. Now we get the prospects and keep the salesmen following these up without the necessity of digging them up themselves.

### Co-operation Between Sales and Service Departments

"We realized that we had to build on service, so we undertook to satisfy all existing complaints and to forestall others. Now when we sell a new truck, we set a definite time for a monthly inspection, which is made free for one year. The user must keep his appointments as our service station is run on a strictly business basis and we tell him so.

"We are beginning to hold weekly sales meetings now, and the service manager is present at all meetings. This we consider a very important matter, as service is one of the chief factors in selling. We want our salesmen to be sold on our service department, and we want our service department to be sold on our salesmen. When one department wants to give the other 'Hail Columbia,' the other will be right there to hear it and come back with the whys and the wherefores and to remove the difficulties, if any exist.

"This, briefly, is the plan we have mapped out and are following. From the first of the year to date, we have averaged better than one new truck a day, and almost as many used trucks; and we are just getting well started, with the season before us."

## When Will It Stop?

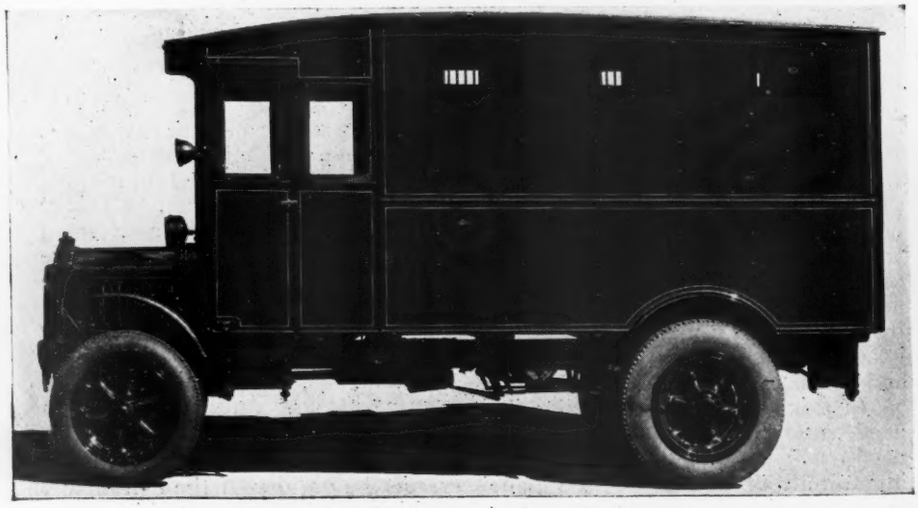
To the Editor:

I am the distributor for a well-known truck in three counties of Western Pennsylvania and Eastern Ohio, and they are three good counties for trucks. The greatest bugbear in the motor truck industry is the trade-in. Although a man can usually depend on a little greater margin in the commercial field than the passenger car line, it is becoming a greater problem to get a value on the used truck. I have gone into a man's place of business and started to talk truck and after going over the line he would say, "Well what will you give me for my —— truck on a deal," and in nine times out of ten I would give him a price which he would own up to, was just about all it was actually worth, but that so and so had offered him several hundred dollars more on a ——— truck and he had a notion he had better take it."

Just a few weeks ago, I had a deal on with a lumber company. They had a big heavy worn out truck to trade-in, in which the crankshaft had broken and also the center bearing in the engine had been broken out. I made them an offer of $400 for it, and I know the dealer of the truck and several other concerns offered the same, but a concern selling a great high discount truck offered them $1100 for it. Now what does that mean? Were they getting value for all of the balance paid? The lumber man himself said that his old truck was not worth more than $400. I think that there should be some kind of a used truck value fixed as there is on passenger cars. It has been my experience that a 1919 truck of any make is just about in the same condition **as any other truck made in the same year by the same concern and of the same size.** Just for instance, I have had a number of trucks of one make offered me in the last few weeks in our Ohio territory and they are all about one age and size and they are worth within a hundred dollars of each other.

Of course the reason for such ridiculous prices allowed for used trucks I know comes from concerns which have direct factory branches from which these new trucks are sold. But what will be the outcome? Will the buyer always allow himself to be blindfolded by these high trade-in allowances or will he awaken and do the sensible thing and get his money's worth. The concerns who do this surely **are not giving the man who has no trade-in** a full dollar's worth. I think we need a used truck standard of values and try to educate the users to that, and not expect to get a new price for an old truck. There also is another side to this as I notice that the concerns doing this are the ones who soon blow up and are no more. I believe that a business built on honest values is the one that will and can exist. Inflated prices always work hardships on some one. When the manufacturers, distributors and dealers decide to give more new truck per dollar and less dollars for old trucks, we will all be better off from the user up.

W. C. WRIGHT,
Ellwood City, Pa.





**Views of the Standard Pay Car Recently Purchased by the Department of Street Railways, City of Detroit**

The body completely armored with special armor plate steel is mounted on a 2½ ton Standard truck chassis. The glass employed is bullet proof. The sides and rear of the body are covered with No. 7 gage special steel, while the roof and floor are covered with a little lighter weight metal. The driver's compartment is separated by a partition of the same material. All doors have Yale locks. The operation of the rear step is controlled from inside the body. The special gasoline and locking device is also operated from inside the body.

# Systematic Lubrication Keeps Down Maintenance Costs

## Any Dealer Can Start a Lubricating Service Which Will Not Only Produce a Definite Revenue, But Also Keep Him in Closer Contact With the Owner. It Will Help in Obtaining Repeat Sales

By C. P. SHATTUCK

THE fact that from 50 to 75 per cent of maintenance costs, and the need of new components is due to lack of intelligent lubrication, has been well established by analysis of repair cost records. Until recently the matter of lubrication has been left, more or less, to the intelligence of the drivers and to the owner. While it is true that the dealer's service manager has urged intelligent lubrication, statistics show that the good advice has been only partially heeded.

If we will accept such figures seriously, we cannot help but realize **that lower transportation costs are possible,** and that **the remedy** for large repair bills **is some practical plan insuring** intelligent lubrication of the many parts subject to wear. The driver cannot be relied upon and, in many instances, neither can his employer. The solution of the problem is a "lubricating service" operated by the dealer and distributor, whereby the **owner is sold on the economic advantages of intelligent lubrication.**

The Pierce-Arrow Motor Car Company has evolved a lubrication policy and the plan was presented to the company's distributors at a recent factory meeting. In the report made by the service department of the factory it was pointed out that the service department of the distributor has not received the prominence it should, that the owner is inclined to avoid the service station except when it becomes absolutely necessary. Consequently, the **contact between the owner and the distributor may be frequent and often not congenial.**

The object of the Pierce-Arrow lubrication and inspection policy is to lessen the owner's troubles, insure frequent and pleasant contact and **enable the distributor to sell the owner the idea that the service station is intended and operated for his best interests.**

The policy goes a step further than the conventional lubrication service. One of its several advantages is that it provides additional revenue by bringing work into the shop that otherwise might be neglected or taken to the outside repair shop. Another advantage is that the distributor will have an accurate record of the car which should be beneficial to the sales department.

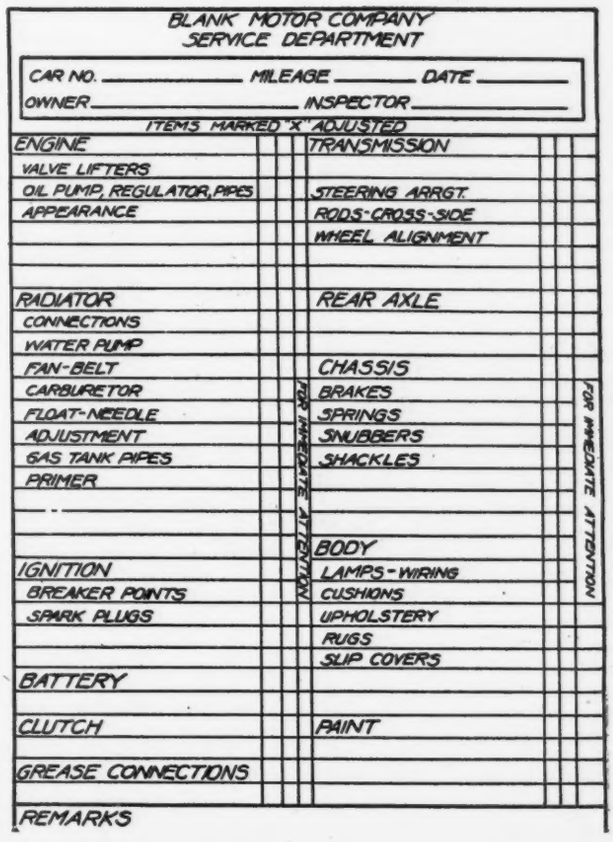
### Cheaper in the End for the Owner

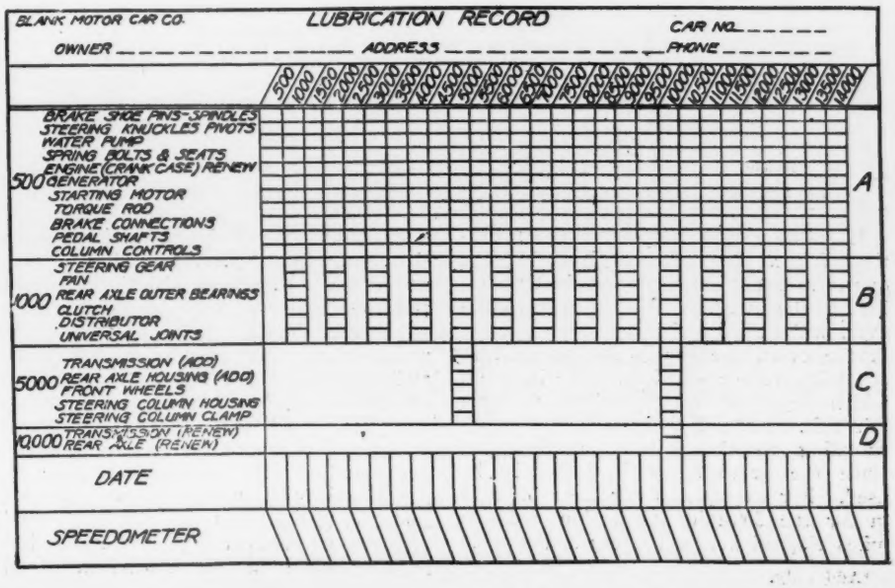
A feature of the plan is that the owner will be sold on the importance of intelligent lubrication, he will know the condition of his car and if he is properly sold, will anticipate costly labor charges. The cost of the lubrication and inspection service is known in advance, and being standard, an owner will be able to obtain universal service.

The plan provides gratuitous lubrication for the first 500 miles and paid service at a very nominal cost thereafter. Both lubrication and inspection are taken care

**Right: The Inspection Form is in Duplicate and Supplies the Service Station With Information of Value as Well as Assists the Owner in Obtaining Economical Transportation.**

**Below: The Lubrication Form is on the Group Basis and is in Duplicate, the Original Going to the Owner and the Copy Retained by the Service Station.**



of at stated intervals. Charges are based upon a pre-established table of group combination prices. **No mechanical repairs are included.** In addition the plan provides for inspection of the chassis, for minor adjustments such as adjusting valves, breaker points, carburetor, etc. Only the factors entering into the proper and satisfactory operation of the car are inspected, such as valve lifters, oil pump regulator and pipes, radiator, connections, water pump, fan, belt, carburetor, etc. The inspection will, however, point out the various items that should receive attention under chargeable repairs and will be the basis for conferring with the owner regarding suggested repairs.

Two records are maintained. The lubrication record is filled out upon the completion of the actual lubrication operations, and it records, among other details, the items attended to, the date and the speedometer reading from which the next visit is computed. It also serves as the notice to the office for the charges to be made to the owner.

The inspection record is made in duplicate, the original being given the owner, a copy being retained in the service office. Items requiring attention are so indicated for reference by the service salesman who confers with the owner.

After the first 500 miles or free service the owner pays. The plan calls for lubrication at intervals of 500 miles, i.e., according to a group plan. Group A, on a 500-mile basis, provides for lubrication of the brake shoe pins and spindles; steering knuckles and pivots; water pump; spring bolts and seats; crankcase or sump; generator; motor; torque rod; brake connections; pedal shafts and column controls.

Group B, on a 1,000-mile basis, for steering gear; fan; rear axle outer bearings; clutch; distributor and universal joints.

Group C, on a 5,000-mile basis, *transmission, *rear axle housing, front wheels, steering column housing and steering column clamp.

Group D, on a basis of 10,000, transmission and rear axle.

The lubrication schedule is as follows:

| Mileage | Groups | Charges | Material | Labor |
|---|---|---|---|---|
| 500 | A | $3.25 | $1.70 | $1.55 |
| 1,000 | A-B | 4.35 | 2.20 | 2.15 |
| 1,500 | A | 3.25 | 1.70 | 1.55 |
| 2,000 | A-B | 4.35 | 2.29 | 2.15 |
| 2,500 | A | 3.25 | 1.70 | 1.55 |
| 3,000 | A-B | 4.25 | 2.20 | 2.15 |
| 5,000 | A-B-C | 6.10 | 2.90 | 3.20 |
| 10,000 | A-B-C-D | 8.75 | 4.05 | 4.70 |

From this point the schedule repeats.

It is the intention to have the operations follow the sequence given, but the owner may not find it convenient to adhere to the schedule. No exception, however, will be made in regard to charges in the event the car is not brought in according to the schedule. The basis on which the costs are compiled will not permit this. Instead the operations corresponding to the mileage accumulated since the previous lubrication, will be used. For example, if car were brought in for the 500-mile lubrication and 400 miles elapsed before the car again made its appearance, the 1,000-mile group would be used and charges made accordingly.

The plan provides for the distributor maintaining a file record of all cars lubricated, showing a separate record for each car. The records will be kept on a 5 x 8 form arranged for this purpose. The forms are shown herewith. Following each lubrication group, a check will be placed in the square corresponding to the unit or part and the mileage. This will indicate that the particular group items have been taken care of properly. It will also serve as the basis for invoicing the owner. The spaces for the date and mileage are also filled in.

These forms provide the service station with information which can be employed to advantage in offering timely suggestions or advice. These factors should not only make for proper care and economical maintenance, but establish good will and contact with the owner. The operation of the policy should be a distinct advantage to both the service and sales departments.

*Add only.

## Road Builders' Elected New Officers

Announcement of the election of new officers and directors and decision by the new Board of Directors as to the time of the next convention and National Good Roads Show were the chief features of the annual meeting of the American Road Builders' Association held in New York, May 15. Reports were received from the executive committee, the treasurer and the convention committee. The latter was accompanied by a financial statement, audited by Haskins & Sells, certified public accountants, and showed that the receipts from the sale of exhibition space were $62,824.77 and the disbursements, $56,332.81, leaving a gross profit of $6,491.96.

The new officers are:

President, Frank Page, Chairman, State Highway Commission, Raleigh, N. C.

Vice-President, Northeastern Dist., E. L. Powers, Editor "Good Roads," New York City.

Vice-President, Southern Dist., W. S. Keller, State Highway Engr., Montgomery, Ala.

Vice-President, Central Dist., S. F. Beatty, Vice-Pres., Austin-Western Road Machinery Co., Chicago, Ill.

Vice-President, Western Dist., Samuel Hill, Hon. Life Pres., Washington State Good Roads Assn., Seattle, Wash.

Treasurer, James H. MacDonald, Consulting Road and Paving Expert, New Haven, Conn.

Following the close of the annual meeting, the new Board of Directors met, elected Ethel A. Birchland, secretary pro tem, and an executive committee, consisting of Thomas J. Wasser, S. T. Henry and William R. Smith, with the president and the treasurer as members ex-officio.

The board then took under advisement arrangements for the next convention and National Good Roads Show. Chicago was selected as the place of meeting and January 13 to 19, 1924, as the dates. The previous board had referred to the new administration a proposal made by the Highway Industries Exhibitors' Association to the effect that the Exhibitors' Association conduct the next show, but in the name of the American Road Builders' Association, and turn over to the latter out of the profits a sum, to be agreed upon, to cover the expenses of running that organization. This proposal was amplified and explained by S. F. Beatty, president of the Highway Industries Exhibitors' Association and a vice-president, also, of the American Road Builders' Association. A thorough discussion of the proposal followed, terminating in the adoption, unanimously, of a motion to the effect that the American Road Builders' Association should conduct the 1924 National Good Roads Show, but in so doing should seek the co-operation of the Highway Industries Exhibitors' Association. Authority for making detailed arrangements with the Exhibitors' Association rests in the hands of the executive committee of the American Road Builders' Association.

## Would Allow for Temperature in Gas Sales

Retail dealers in gasoline may sometimes lose a fourth of their profits in warm weather because of temperature changes in the gasoline, according to a paper presented at the Annual Conference of Weights and Measures by Howard R. Estes, Sealer of Weights and Measures, of Flint, Mich.

Sales of gasoline in carload lots are always corrected for temperature, he stated, the correction for twenty degree change in temperature amounting to nearly two gallons in a hundred. This is made necessary by the expansion of the gasoline with increase of temperature.

The gasoline is taken to the filling station in a tank truck where in summer it has a temperature of 85 degrees and often more. It is put in an underground tank in which its temperature is lowered to 65 degrees and is sold at that temperature.

The result is that the dealer sells the motorist nearly two per cent more gasoline in a gallon than was in that gallon when he bought it. The dealer's profit on a hundred gallons is about $2.00, and if, through failure to take account of temperature changes, he loses two gallon that makes his loss about fifty cents, or a fourth of his profit.

The error resulting from a twenty degree change in temperature is nearly four times the tolerance allowed on the measurements made by gasoline selling devices.

# Activities of the Motor Truck Association of Philadelphia

OFFICERS

F. W. WILLIAMS, President
W. A. MANWARING, Vice President
W. H. METCALF, Sec'y, 328 N. Broad Street
W. ROSS WALTON, Treasurer

BOARD OF GOVERNORS

F. A. WARNER
THOMAS K. QUIRK
H. M. COLE
D. H. ZIMMERMAN

THE COMMERCIAL CAR JOURNAL OFFICIAL ORGAN

At the last monthly meeting of the season of the Motor Truck Association of Philadelphia at the Hotel Lorraine on Wednesday May 16, a resolution was unanimously adopted protesting to the State Legislature against the passage of House Bill No. 161, introduced by Representative Hall, which would place in the hands of local county and borough authorities, the right to close bridges at will to vehicle loads of 15,000 pounds or more. The resolution was telegraphed to Representative Hall, Highway Commissioner Wright and the speakers of the House and Senate, requesting that the bill be defeated in the interest of the thousands of motor truck owners and the general public who would be seriously hampered by the possible arbitrary enforcement of such a law by local authorities, practically closing important sections of main highways of transportation.

The resolution was passed read: "The Motor Truck Association of Philadelphia on behalf of the owners of motor trucks operating over highways of the state, vigorously protest against the provisions of house Bill No. 161 which would place in the hands of local authorities power to close bridges to vehicles exceeding 15,000 gross weight. This power might be arbitrarily exercised to close bridges capable of carrying a greater load, resulting in unwarranted inconvenience and loss to these owners and communities they serve. No bridge should be closed to a load that it is capable of carrying and we confidently look to you to protect these interests by defeating this bill."

The meeting was presided over by the president, F. H. Williams, and the entertainment feature was conducted by Howard Armstrong, chairman of the entertainment committee. It was decided to hold the annual outing at Morrolton Inn on the Delaware on Wednesday, June 20th, and to invite the members of the Philadelphia Automobile Trade Association to participate.

Alexander McIntosh, president of the Lightning Motor Line, Inc., addressed the meeting on motor freight hauling and the necessity of service. He said there are between one and two hundred motor trucks nightly hauling freight both ways between Philadelphia and New York. The truck rates, he says, have now been brought down to railroad rates, although the truck renders a door-to-door delivery and guarantees over-night service. The quick changes in prices and styles of certain commodities, he says, makes the truck essential today to avoid losses by manufacturers, and stores who would otherwise be obliged to store large quantities of goods which might not be sold before the price or styles change. He also said the truck served the public and business in cases of railway embargoes. They were also needful in quick transportation of certain raw materials and manufactured articles to and from factories in big centers which alone are capable of performing the particular function required, such as spinning, weaving or dyeing and often these operations require three and four transmissions of shipments back and forth before the goods are finally ready for the market. He said there was a necessity for better trucks providing the best features of all trucks and hoped that the day would come when this could be done.

An interesting address on local and long distance motor transportation, rates and practicability of the service was made by A. M. Bair, president of the Federal Motor Freight Corporation, who said that local and long distance hauling cannot be mixed. Long distance hauling, he stated, was operated by night to avoid congestion and make time. Local hauling, he explained, was a case of time and not miles, and he complained of the tendency of some shipping clerks to waste motor trucks' time in not having shipments ready. Regular routes be pointed out, were necessary, where serving a number of customers was required. He explained the difference between regular routes, and the hauling by van systems for casual customers. Long distance hauling was generally the serving of one customer, with one to twenty deliveries while regular transportation was operating on a mixed schedule hauling a lot or a little of merchandise according to the day's business. The truck service, he explained differed from the railway service in that it was from store to door.

The flexibility of motor truck collections, routes and deliveries was emphasized as superior to railroad service. Reliability, regularity and responsibility, he said, were essential features of such service. Transportation companies, Mr. Bird explained, were faced with the difficulty of getting adequate insurance, as some of their loads sometimes, are valued as high as $30,000. He did not agree with some authorities that the horse will ever be eliminated, as he admitted there were conditions where the horse was superior to the electric and the gasoline truck, each of which had their distinctive field.

The problem of rates, Mr. Bird said, was gradually being worked out satisfactorily to the shipper and the hauler, but he warned both the seller and purchaser of trucks to be careful in the selection of size of truck used for various kinds of transportation. The economical radius at present, he showed, for the operation of truck transportation companies is approximately the distance a truck can travel in ten hours. He made a plea to the Association members to get as many truck owners as possible to join the association because in so doing the owner would learn much of benefit to himself and would also be helpful to the truck dealers and factories by giving them his side of the story.

## Denver Boosters Elect Officers

Several new members were elected at the monthly meeting of the Boosters' Club, R. M. No. 3 Denver, Colo., held May 7. It was voted to compile a roster of the members with the names and addresses of the factory and manufacturers represented and to mail list to the Inter-Mountain jobbers.

At the annual meeting the following officers and directors were elected: President, J. W. Van De Grift; treasurer, L. B. Youngs; secretary, P. N. Rice; Board of Directors—Duncan Bond, A. F. Knight, S. J. Southwick, L. D. McLarty, L. B. Putnam and W. L. Schmidt.

Members are now employing the Booster gothic letter B on their stationery when writing jobbers and the factories thereby introducing the club. The following code of ethics is employed:

To show my faith in the worthiness of my vocation by industrious application to the end I may merit a reputation for quality of service.

To seek success and demand all fair remuneration as my just due, but to accept no profit or success at the price of my own self-respect, because of unfair advantage taken.

To remember that in building up my business it is not necessary to tear down another's; to be loyal to my customers and true to myself.

To hold friendship as an end and not a means. To hold that true friendship exists not on account of service performed by one to another, but that true friendship demands nothing and accepts service in the spirit in which it is given.

To be careful with my criticisms and liberal with my praises; to build up and not destroy.

The Boosters' Club, South Western, No. 4, added six new members at the last meeting and there were only three absent these being out of the city. There has been sent to every jobber in the southwest by the president of the club a letter or declaration of the principles of the club. A brief outline of why the original club was formed, what all clubs are trying to accomplish, etc., is given.

IF you want to hook up with a real human crowd of truck merchandisers with the most modern truck line made get a FEDERAL selling franchise

THIS SYMBOL IN ANY ADVERTISEMENT MEANS: SEE "CHILTON AUTOMOBILE DIRECTORY" FOR COMPLETE BUYING INFORMATION

# EDITORIALS

## Crabbing the Other Fellow's Profit

WHETHER it is the salesman's long association with the trade-in method of selling trucks that is responsible, we cannot say. Perhaps it is simply the jealous nature of the individual whose inability to secure a certain order, makes him determined to kill the competitors' profits even though he can't kill the sale direct.

This is what happens. Smith and Jones, selling competitive makes, have both been working on the same prospect. Finally the prospect selects Smith's truck. Jones hears it and being a bum sport, congratulates Mr. Prospect on his choice, somewhat along these lines: "Of course, I will say that you have bought a good truck, but you certainly ought to have gotten more out of the deal than you did. If you had pressed the deal hard enough you could have gotten a spare tire, a radiator guard and a few other accessories. You certainly didn't get all that was coming to you. But if you push Smith hard enough for the extras, he'll come across—but don't mention my name."

Naturally the prospect wonders whether Smith has pulled something over on him. To save the deal, Smith comes across with a few more "extras." Just a few more dollars in profit gone, because of the cussedness and contemptible meanness on the part of one dealer against another. No this isn't a personal proposition between salesmen alone. It is just a case of too much of that "eye for eye and tooth for tooth" spirit in the retail end.

## Four-Wheel Brakes

FOUR-WHEEL brakes are subject to much discussion in passenger car circles these days. It is predicted that next year's national shows will see many of the higher priced cars so equipped.

If four brakes on a passenger car are better than two, why shouldn't they be of even more benefit on motor trucks?

The exponents of the two-wheel brake contend that the four-wheel brake will only be adopted on the heavy vehicles, which would naturally restrict the output as far as the truck end would be concerned to a very limited quantity. But why single out the heavy vehicle? Of course, we appreciate the fact that the owner of the cheaper lighter vehicle is perhaps more careless in the adjustment of his brakes than the owner of the heavier high-priced car or truck, but doesn't the lighter car and truck field offer a greater opportunity for development and a bigger market?

We believe that the four-wheel brake will be standard equipment in due time on all motor buses. It is simply one of those evolutions which is bound to come. In so far as the designing end is concerned we will leave that to the American automotive engineer. He has never yet failed to produce that which is a necessity, and the design will be just as simple and lend itself to ready adjustment as the rear wheel brake is now. At least the use of the four-wheel brake will have a tendency to promote more systematic attention to one of the vital parts of the automotive vehicle.

## Selling Them Right

PRACTICALLY every industry is constantly faced with the problem of adjusting itself to meet the demand of the buyer or to create styles and designs which will attract him. Every business house must be continually on the job to adjust itself to the trend of the times. The successful manufacturer anticipates these changes far enough in advance.

A few years ago the heavy-capacity truck was used in almost every line of business. Today we find things just the reverse.

This has all come about because of the desire on the part of the consumer for more economical transportation. Not that we wish to intimate that the heavy-capacity truck is uneconomical where properly employed or used to capacity. But in too many cases truck owners were sold large capacity trucks where the full capacity of the vehicle was only occasionally needed. Then the demand came for lighter vehicles and many owners went from one extreme to the other. The lighter vehicle is considered more economical, but many of the lighter vehicles are greatly over loaded and thus their actual economy cannot be fully realized.

But all this will be changed as time goes on. The dealer who is selling "transportation" will see to that. The dealer who is looking forward to building up a stable business will do well therefore to constantly study the needs of his customers. The more thoroughly he studies their problems before attempting to get the signature on the dotted line, the better qualified he is to give advice. The customer in turn will consider his word as a transportation merchant of more value than the price offer made by a competitor.

# News of the Trade in Brief

## State Highway Departments Continually Changing

As a result of state legislative action or a change in the state administration, highway departments of 14 states have either been reorganized or the management of their affairs are under new direction, according to the study of state highway activities being made by the Good Roads Board of the American Automobile Association.

This big turnover in management of state highway departments does not take into consideration the changes which occurred during 1922 and the years preceding, but represents the legislative or political product of three and a half months of 1923.

When it is considered that these departments have the expenditure of from $2,000,000 to $40,000,000 annually under their direction, the economic loss resulting from the frequent changes in administration with the corresponding changes in policy is appalling, points out H. G. Shirley, chairman of the good roads board.

The changes made in the state highway departments in 1923 vary from the usual change of the chief executive of the department with the incoming administration, to a complete reorganization of a state highway department along entirely different lines.

If a corresponding high percentage of private business concerns of similar magnitude were subjected to a like turnover in management, Mr. Shirley declares, the results would be so disastrous to business generally as to demand on the part of business the immediate remedy of this situation.

## Firestone Withdraws From Rubber Association

Harvey S. Firestone, president of the Firestone Tire and Rubber Company, has announced that his company has resigned as a member of the Rubber Association of America.

The letter of resignation, signed by Mr. Firestone and addressed to A. L. Viles, general manager of the Rubber Association of America, states Mr. Firestone's reasons for the company's withdrawal from the national organization. Mr. Firestone's letter follows in part:

"In behalf of the Firestone Tire & Rubber Company I hereby tender, for the attention of your board of directors, its resignation as a member of the Rubber Association of America. This action is taken only after mature consideration and with the greatest reluctance. The failure of your organization to cope with the major problems of the association, especially the crisis created by the Rubber Restriction Act, has impelled this action."

## Coming Events

**Atlantic City, N. J., June 25 to 30, 1923**—26th annual meeting of the American Society for Testing Materials, Chalfonte-Haddon Hall.

**Atlantic City, N. J., October 7 to 11, 1923**—Convention and exhibition of the American Railway Association, at Million Dollar Pier.

**Bakersfield, Calif., October, 1923**—Annual convention of the California Automobile Trade Association.

**Chicago, Ill., July 23 to 24, 1923**—First national conference of automobile trade secretaries and managers under the auspices of the National Automobile Dealers' Association, Hotel Drake.

**Chicago, Ill., November 12 to 17, 1923**—Annual convention and exhibition of the Automotive Equipment Association at the Coliseum.

**Cleveland, O., October 24 to 26, 1923**—30th annual convention of the National Association of Farm Equipment Manufacturers, Hotel Statler.

**Detroit, Mich., June 26 to 27, 1923**—3rd annual convention of the Automobile Body Builders Association, Hotel Statler, F. D. Mitchell, secretary-treasurer, 1819 Broadway, New York City.

**Dixville Notch, N. H., June 25 to 29, 1923**—Convention of Automotive Equipment Association, Balsams.

**Los Angeles, Cal., June 18, 1923**—District meeting of the National Automobile Dealers' Association.

**Mobile, Ala., July 23, 1923**—Semi-annual meeting of the Alabama Automotive Trades Association.

**Olympia, Wash., June 29, 1923**—District meeting of the National Automobile Dealers' Association.

**Olympia, Wash., July, 1923**—Midsummer convention of the Washington Automobile Trade Association.

**Milwaukee, Wis., June 25 to 27, 1923**—Convention of the National Team and Truck Owners' Association, Pfister Hotel.

**Portland, Ore., June 25, 1923**—District meeting of the National Automobile Dealers' Association.

**San Francisco, Cal., June 21, 1923**—District meeting of the National Automobile Dealers' Association.

**Twin Falls, Idaho, July 14 to 15, 1923**—Annual meeting of the Idaho Automotive Trade Association.

**Society of Automotive Engineers**

**Cleveland, October 25 to 26, 1923**—Production meeting.

**Detroit, January, 1924**—Annual meeting.

**Spring Lake, N. J.—June 19 to 23, 1923**—Summer meeting.

**SHOWS**

**Chicago, Ill., September 1 to 7, 1923**—National transportation exhibition, including taxicabs, rail-cars, motor buses, trucks and trailers, at Collseum and Annex, auspices of Motor Truck Industries, Inc.

**Fresno, Cal., September 28 to October 5, 1923** — Automobile show, auspices of the Fresno Automobile Dealers' Association. Ray W. Wakefield, Mgr.

**Green Bay, Wis., August 27 to 30, 1923**—Annual automobile show, auspices of Green Bay Association of Commerce, Brown County Fair Grounds. W. F. Kermin, manager.

**Little Rock, Ark., October 8 to 13, 1923**—Annual automobile show, auspices of Little Rock Automobile Dealers' Association. A. W. Parke, manager.

**Memphis, Tenn., September 23 to 30, 1923**—Annual automobile show, Tri-State Fair Grounds. Memphis Automobile Dealers' Association. Thomas T. Smart, manager.

**Sacramento, Cal., September 3 to 8, 1923**—Annual automobile show, auspices of Motor Dealers' Association. State Exposition Grounds. H. W. Leonard, manager.

**Waco, Texas, October 20 to November 5, 1923**—Annual automobile show of Waco Automobile Dealers' Association, Texas Cotton Palace Exposition.

**FOREIGN EVENTS**

**Paris, France, October 24 to November 2, 1923**—Truck and tractor show at Grand Palais.

## Lee Tire Acquires Republic Rubber Company

The Republic Rubber Co. of Youngstown, Ohio has been purchased by John J. Watson, Jr. and his associates. Mr. Watson is chairman of the Board of the Lee Rubber & Tire Co., and has been affiliated with the rubber business for years having been connected with the United States Co.

The sale of Republic marks the passing into new hands of one of the oldest rubber companies whose products, including pneumatic tires, truck tires, tubes and mechanical goods have always been noted for their fine quality. Like many other rubber companies Republic had large commitments for fabric and rubber in 1918 which it was unable to liquidate in a declining market.

C. H. Booth of Youngstown was appointed receiver and during his administration he affected a complete reorganization in the company's personnel and methods of manufacture and distribution. As a result the company prospered. Sales for March, 1923, were 52 per cent over February, 1923, and were the largest in any month in net sales since October,, 1920.

It is understood that a new Ohio corporation will be formed, the stock of which will be owned by Lee Rubber & Tire Co.

The new company will continue to manufacture the old Republic products, including Republic Grande Cord Tires with the Staggered Tread, Republic Solid Pneumatic Truck Tires and its other products including Republic belting, hose, packing heels.

The sale of the Republic Rubber Co. was consummated between the bank and merchandise creditors and Mr. Watson, after the creditors committees had offered the properities to the stockholders with a plan of reorganization which the stockholders were unable to accept.

Announcement of the details and the formation of the new company will be made shortly.

## Hale Made Vice-President and General Manager of Denby

Sidney H. Hale has joined the Denby Motor Truck Corp. as vice-president and general manager. Mr. Hale is well known in the truck field and brings to the Denby organization an intimate knowledge of the industry gained through first-hand contact with all its various phases over a period of more than sixteen years. He recently resigned as general sales manager of the Vim Motor Truck Co., having been connected with that company for many years. Prior to joining Vim he was general manager of H. J. Koehler S. G. Co., the original eastern distributors of Hupmobiles.

## Minority Group Buy Zenith Carburetor Plant

Stockholders of the Zenith Carburetor Co., Detroit have unanimously voted to sell all the property except cash and bonds of that company to the Zenith-Detroit Corp. for the sum of $500,000. The Zenith-Detroit Corp., was organized April 30, 1923 by a group of the minority stockholders of the original concern, and has a capitalization of $250,000. Former officers of the Carburetor Co., have been elected as the new corporation's officers.

In outlining the details of the change, V. R. Heftler, president said: "It will be remembered that back in 1912 the Stromberg Motor Devices Co., started a suit against the Zenith Carburetor Co., based on the Ahara patent; this patent they purchased for $500; it expired in 1918. For the past five years an accounting has been proceeding in the courts to determine what amount Zenith should pay for the infringement between 1912 and 1918. The master in chancery recently made a preliminary report in which he recommended that an award of $400,000 should be paid to the Stromberg Co., for such infringement, but he will hear further argument on this in June and thereafter the matter will come up for consideration by the District Judge and possibly the Court of Appeals."

Under the purchase price the Zenith Carburetor Co., will have enough to pay in full all current indebtedness and tax liabilities leaving enough to pay, if necessary, the $400,000 award to Stromberg.

## Drake Made Assistant Secretary of Commerce by Hoover

A singular honor has been accorded the automobile industry by the appointment of J. Walter Drake as assistant secretary of commerce under Herbert Hoover. Mr. Drake, one of the outstanding figures of the automobile industry is a director of the Denby Motor Truck Co., chairman of the board of directors of the Hupp Motor Car Corp., and chairman of the Foreign Trade Committee of the National Automobile Chamber of Commerce. The appointment does not mean that Mr. Drake will lose his identity with the automobile industry, although he will discontinue active work in it.

For a number of years he has been one of the industry's leading spokesmen. Thoroughly conversant with every phase of the automobile business, he is also an an authority on international affairs. He recently returned from a three months trip abroad where he went as a delegate of the United States Chamber of Commerce at the meeting in Rome.

## Bijur to be Sold on June 18th

All the assets of the Bijur Motor Appliance Co., of Hoboken, N. J. will be offered at public auction June 18 by Joseph P. Day at the plant in Hoboken. John Milton, temporay receiver for the company, has been discharged and the Court order vacated.

## Motor Progress Built on Advertising

That advertising has been a fundamental of progress in the automobile business was the message of George M. Graham, member of the Highways Committee of the National Automobile Chamber of Commerce, speaking before the General Session of the Associated Advertising Clubs of the World at Atlantic City, June 4th.

He pointed out that every motor vehicle manufacturer advertises, that each product has a brand or trade name backed by the reputation of the manufacturer, and that the industry uses every type of advertising to some degree.

Mr. Graham emphasized the importance of the trade press, saying "Particularly have we had the invaluable support of a virile and constructive trade press."

### A SIGNIFICANT CONVENTION

**The eyes of the truck industry will turn on Milwaukee during June 25 to 27, where the 21st convention of the National Team and Motor Truck Owners' Association will be held. Of vital interest to truck dealers is the program that will be presented during this convention. A large number of representative automobile men are to be among the speakers, and the subjects chosen are of the greatest importance to truck transportation today.**

**The association is extremely anxious that all those engaged in Hauling for Hire be notified of this meeting. Information can be obtained from Frank F. Tirre, Secy., 1207 Fullerton Bldg., St. Louis.**

## Ford to Maintain Present Production Through 1923

The Ford Motor Co., announces that it will maintain its present record output throughout the rest of the year and carry it into 1924. Profits of the company are now running between $8,000,000 and $10,000,000 a month. Further expansion of the business and the employment of additional help is contemplated.

During the first four months of this year, the Ford Motor Company delivered at retail in the United States a total of 59,978 trucks, 31,682 more than were sold during the same period last year.

## Boosters to Organize Nationally in November

At the May meeting of the Boosters Club, N. E. No. 1, held on the 28th at Boston, it was decided to postpone the the organization of a national association, scheduled for the A. E. A. meeting, until the November meeting of the A. E. A. at Chicago. It was also planned to work more closely with the jobbers in the "Ask 'Em to Buy" campaign which the New England jobbers are putting over.

## Radiator Company Undergoes Ownership Change

Perfex radiators are to be manufactured hereafter by a new firm, the Racine Radiator Co., which bought, at Receivers sale, April 21, the property and assets of the Perfex Radiator Co., of Racine, Wis. The purchase has been made by F. M. Young and several associates. Mr. Young, since 1919 has been associated with the old company in a managerial capacity, having assumed the general managership two years ago. It was only found necessary to close the plant four days for inventory; operations are now progressing on an increased production schedule.

The new company is headed by D. T. Macleod, Milwaukee, as president and treasurer, with F. M. Young as vice-president and general manager; E. M. Alexander, a prominent Milwaukee business man is secretary.

The plant is said to be one of the best equipped in the country and covers approximately 30,000 sq. ft. floor area for production purposes. The Racine Radiator will continue the manufacture of Perfex replacement radiators for Fords and Chevrolets and will supply industrial and truck radiators to cover 70 manufacturers for regular equipment.

## Sloan Elected President of General Motors

Alfred P. Sloan, Jr., formerly president of the Hyatt Roller Bearing Co. has been elected president and chairman of the executive committee of the General Motors Corp.

Pierre S. duPont who retires will remain chairman of the Board of General Motors Corporation and will continue to take an active interest in its affairs. He also holds the corresponding position in E. I. duPont de Nemours and Company, the largest owner of General Motors Corporation common shares. He also remains a member of the Finance Committee and of the Executive Committee of General Motors Corporation.

## Truck Prices Advance

The past four weeks records a movement upward in truck prices; only one decrease being reported, the Witt Will Co., of Washington, D. C. Price advances were made by the following companies. Facto Motor Trucks, Springfield, Mass., (2½-ton model); Commercial Truck Co., Philadelphia, Pa.; Larrabee Deyo Motor Truck Co., Binghamton, N. Y.; (1¼-ton model); Perfection Truck Co., Minneapolis, Minn.; Parker Motor Truck Co., Milwaukee, Wis.; Ruggles Motor Truck Co., Saginaw, Mich.; Sterling Motor Truck Co., Milwaukee, Wis., United States Motor Truck Co., Cincinnati, O., and the Vreeland Motor Co. Inc., Newark, N. J.

## Ohio Manufacturer Introduces New Line of Coach Bodies

Such rapid advance has been made in the development and use of motor coach transportation that many automotive manufacturers find themselves hard pressed to provide suitable coach bodies. Recognizing this fact a group of well-known men have formed the Superior Motor Coach Body Co., for the manufacture of modern motor coach bodies.

The organization will include practical coach men. The new company begins extensive operations immediately.

The Superior Motor Coach Body Co., has taken over a newly completed modern factory at Lima, Ohio, and is perfecting along with its manufacturing organization a research organization of engineers and specialists in coach transportation.

Officers of the new company are: President, Emmett R. Curtin, Sr., (President, Lima Natural Gas Co.); vice-president, R. J. Plate, (vice-president, Deisel-Wemmer Co.); secretary and treasurer, Howard P. Dean, (vice-president, Lima Trust Company). Other principal stockholders are: John E. Calvin (president, Ohio Steel Foundry Company); J. F. Neubauer, (former president solar Refining Company); H. L. Breckenridge, (vice-president, Lima Locomotive Works); L. A. Larsen (vice-president, Lima Locomotive Works), and W. L. Parmenter, attorney.

## Ignition Manufacturer Buys Player-Piano Factory

Approximately 125,000 sq. ft. of floor space has been added to the manufacturing facilities of the Connecticut Telephone & Electric Co., Meriden, Conn., by the purchase of the plant of the Wilcox & White Co., Meriden, makers of the well-known Angelus player-piano, who went into the hands of a receiver.

The addition which will be known as Plant No. 2, is a four story modern brick structure in the form of a hollow square with power house in the center. The plant is to be used for the general expansion of the business which consists of Connecticut ignition, telephones, radio and the insulating product, Cetec.

### Two New Lines for Kalamazoo

Arrangements have been made by the Michigan United Railway Co., with the Kalamazoo City Commission for the operation of two auxiliary bus lines in connection with street car service in Kalamazoo. Bus operation will start soon.

### McKay Carriage Completes Addition

McKay Carriage Co., bus body manufacturers of Grove City, Pa., have just completed a $50,000 addition to their plant. The new addition, which is a steel and cement building, will be used exclusively for the manufacture of their new sedan type bus bodies.

## Reorganized Republic Truck Company Elects Officers

Following the completion of plans that greatly increase the finances and resources of the Republic Motor Truck Co., new directors have been announced as follows: M. N. Buckner, chairman of the board; J. A. Bowers, Maurice Rothschild, George W. Morgan and O. W. Hayes. The officers are O. W. Hayes, president; Maurice Rothschild, vice-president in charge of engineering; G. S. Crisp, secretary and treasurer; E. E. Sieg, general sales manager; J. C. Haggart, Jr., chief engineer; W. J. Bunn, purchasing agent; R. E. DeVogt, service manager; E. J. Damaray, foreign sales manager; W. R. Tomlin, credit manager.

## Bus Concessions Granted at Shanghai

A concession for the establishment of an extensive motor bus service has been granted by the Municipal Council of the International Settlement, according to advices to the Department of Commerce from the Consulate General at Shanghai. Provisions are made for the establishment of a service on the Nanking and Sechuen roads within six months and other routes within 12 months. The terms further provide that 30 buses must be in operation within six months and that the maximum fares shall be 10 cents Mexican per mile, first class, and 5 cents per mile, second class. The Council in co-operation with the French Municipal Council has also agreed to grant 200 licenses for pedicabs operation to the representatives of a British manufacturer.

## G. E. Having Many Trollibus Equipment Orders

An order for the electrical equipment of fourteen trollibuses has been received by the General Electric Co. of Schenectady. Nine of these buses will be operated by the New York City municipial officials and five by the New York State Railways Company, at Rochester, N. Y. Despite heavy, shipments in the past few months current unfilled orders amount to approximately $65,000,000 against $49,-349,140 the first of the year.

## New Bus Line in Illinois

The Momence Bus Line, Merchant St., Kankakee, Ill., has been incorporated with a capital of $5,000 to operate a motor bus line. The incorporators are Alfred Ponton, Albert Ponton, Philip Ponton. The correspondent is John A. Mayhew, 507 Cobb Bldg., Kankakee.

**RECORD AFTER RECORD!**

**A new daily production record was established by the Ford Motor Co., May 31st, when 6781 passenger cars and trucks were completed. This exceeds by 123 the previous high day, May 21st.**

## Winship Clears Up Confusion on 8-Wheel Vehicles

Owing to some confusion as to the manufacturer of the Pacific Eight-Wheel Coach, Emory Winship of San Francisco has been asked to clear up this matter. Mr. Winship has replied through Ray J. Barber as follows:

"Mr. Winship is the sole owner of the Eight-Wheel Motor Vehicle Company. Last year he made a tentative arrangement with the National Axle Corporation of San Jose, California, under which they built one 10-ton 8-wheel truck and one 31 passenger 8-wheel motor street car. These vehicles were made to Mr. Winship's order, the National Axle Corporation simply acting as a contract shop for him. * * * Now the National Axle Corporation had no 8-wheel work in their shops, nor any connection with the 8-wheel program.

"The Eight-Wheel Motor Vehicle Company, which, as above stated is owned by Mr. Emory Winship, controls all of the fundamental 8-wheel patents that have been issued, as well as many applications for patents that are still pending. Negotiations are now nearing completion for the commercial production of 8-wheel buses, street cars and trucks in the immediate future, so that they bid fair soon to become an important factor in highway transportation."

## Newburgh Installing Buses

After experimentation with motor buses, the citizens of Newburgh, a New York State city of 35,000 population, have decided to install a complete system of bus transportation. In December 1922, buses carried a total of 106,000 passengers as compared with 47,000 carried by the trolley cars on the same lines in December 1921. In addition to the increased traffic, there has been a reduction of about 37 per cent in the cost of operation. During the past winter, despite heavy snowfall, the buses were found able to keep to their schedules and to give a service satisfactory to the riding public.

### Dump Body Builder Locates in Michigan

Mt. Clemens, Mich., is to be the home of the Automotive Utilities Corporation, Detroit, manufacturer of Trail-Ford and steel dump bodies. A site of seven acres has been given to the corporation by the Mt. Clemens Board of Commerce and construction of the plant is now under way. The corporation expects to move to the new home next month. Production is to start in 60 days, according to the plans, and 200 men will be employed.

### Los Angeles Places Big Bus Order

The Los Angeles Motorbus Co., owned and controlled by the Los Angeles and the Pacific Electric railways has ordered $750,000 worth of motor buses according to a recent announcement.

## Electric Truck Development Discussed at N. A. C. C. Meeting

At the general meeting of the truck members of the N. A. C. C. held in New York, at the Chamber's headquarters, on June 7th, one of the subjects which proved very interesting to the members, was the report submitted on the electric truck activities of the National Electric Light Association. This report detailed the activities of the Electric Truck and Car Bureau of the National Electric Light Association for the past year and the plans which were outlined for this year at the meeting held by the Commercial Section of the N. E. L. A. in convention at New York, during the week of June 4th.

Other subjects discussed by the truck members included the trade outlook; new legislation affecting motor trucks; the milk industry as a market for motor trucks; the used truck statistical bureau. Reports were also made on the muncipal survey and the New England survey, the latter showing why large industries in those states use motor trucks so extensively.

## Ford Sales Pass Half Million Mark in 120 Days

More than half a million Ford cars and trucks sold in 120 days is the astonishing record established by the Ford Motor Company.

From January 1 to May 1 sales of Ford cars and trucks in the United States reached the total of 561,544, nearly twice the number sold at retail during the same period a year ago when the total was 283,782.

April set a new sales record for the month, just as every other month this year, and was the thirteenth consecutive month in which sales have run over the 100,000 mark.

Sales during April totaled 165,582 Ford Cars and Trucks, 50,000 more than were delivered in the same month last year when 115,282 retail deliveries were made.

## MacManus Completes New Addition

MacManus Incorporated, nationally known advertising agency located at Detroit, recently completed a large addition to its building. The organization has undergone rapid expansion since its inception. Seven years ago the staff comprised 14 persons; today there are 61, and to serve those clients around New York City, a branch is maintained there. The company is now handling a large number of automobile accounts, but the advertising merchandising of products of several other lines have been added from time to time.

New England is to be the host of the next National Foreign Trade Convention, according to James A. Farrel, chairman of the National Foreign Trade Council, and president of the United States Steel Corporation. The meeting will be held in Boston, probably during May, 1924.

## Motor Trucks Aid in Extraction of Raw Materials

The contribution of the motor truck to the nation's prosperity through its utilization in logging, mining, oil production and farming was outlined by F. W. Fenn, secretary of the National Motor Truck Committee, National Automobile Chamber of Commerce in a lecture delivered recently at the Engineering School, New York University.

The noise of the truck motor, unheard in the forests a few years ago, now threatens to drown out all other sounds of lumbering. With the passing of huge stands of timber, the logging industry has developed from one of independence to almost total dependence on improved transportation methods. The operation of motor trucks has proven more efficient than old methods of logging by horse, or mule, and more economical than the narrow gage railway.

Approximately seventy-five per cent of the copper, lead and zinc mining operators do not handle sufficient tonnage to warrant the establishment of direct rail connections and are dependent on trucks for transporting both product and supplies. The products of about 3,300 coal mines are now being handled by motor trucks. Seventy-five per cent of the work in the Texas and Oklahoma oil fields is carried on by means of especially designed truck and trailer combinations.

The farmer gets a direct benefit from the transportation of his crops to shipping point by motor truck over good roads in a cash saving over the cost of hauling by horse and wagon over dirt roads. Indirectly, he benefits by the saving in the cost of delivery of his purchases and the closer contact he has with the outside world.

### Automobile Industry Leads in Dollar Value

The Department of Commerce at Washington has compiled figures, which show the automotive industry has hopelessly outclassed all other industries in dollar value. Following are the figures:

| | |
|---|---|
| **Automotive Industry,** | **$2,865,000,000** |
| **Petroleum** ..... | **2,050,000,000** |
| **Meat Packing** ..... | **1,935,000,000** |
| **Foundry** ..... | **1,900,000,000** |
| **Lumber and Timber,** | **1,675,000,000** |
| **Iron and Steel** ..... | **1,650,000,000** |
| **Clothing** ..... | **1,530,000,000** |
| **Flour Mills** ..... | **1,275,000,000** |
| **Cotton Goods** ..... | **1,250,000,000** |
| **Boots and Shoes** .... | **1,100,000,000** |

These figures are based on the dollar value of production for 1922.

### Nash Presents Baseball Field to Employes

A new baseball stadium and athletic field, declared to be one of the finest semi-pro baseball plants in the country, has been presented by C. W. Nash to employes of the Nash Motors Co.

## Steel Wheel to be a Holding Corporation

A renewed impetus to steel wheel development is forecast with the formation of the Steel Wheel Corporation, owned and controlled by three manufacturers, the Motor Wheel Corporation, Lansing, Mich., the Detroit Pressed Steel Company, Detroit, and the American Steel Foundries, Chicago.

Papers of incorporation have been filed with the secretary of the State of Michigan by H. F. Harper, B. S. Gier, C. H. L. Flintermann and R. H. Ripley, representing the above companies in the order named. Headquarters will be maintained at Lansing, with B. S. Gier as secretary-treasurer.

Control has been acquired by the Steel Wheel Corporation of the exclusive right to license the manufacture and sale of steel wheels under the Putnam, Foryth, Williams, Winter and other basic steel wheel patents.

According to B. S. Gier, secretary-treasurer, it is not the intention of the Steel Wheel Corporation to enter the manufacture and sale of steel wheels at this time, although such license has been granted the corporation in its charter.

The company was organized primarily, to secure to manufacturers the priviledge of certain conflicting patents, thereby enabling such manufacturers to develop the steel wheel industry on a safe and sound basis.

## Knoble Has Written Book on Auto Merchandising

Cliff Knoble, widely known through his exceptionally illuminating articles in the AUTOMOBILE TRADE JOURNAL on automobile merchandising has placed on the market a treatise on this subject entitled "Automobile Selling Sense." This book is published by Prentice-Hall, Inc., 70 Fifth Ave., New York City.

Eight chapters of this entertaining as well as instructive book have appeared at different times during 1922 and 1923 in the AUTOMOBILE TRADE JOURNAL. The work is the compilation of useable, practicable ideas, gained both from the author's personal experience and from the experience of highly successful men in various branches of the business. It can be read with great value by anyone connected with the automobile distributing field.

Mr. Knoble is a member of the staff of Brooke, Smith and French, Inc., national advertising and merchandising organization of Detroit. He has had extensive experience in automobile manufacturing as well as automobile selling.

### Fees Are Highest in Massachusetts

Motor vehicle fees provide 75 per cent of the road funds in Massachusetts. This is the highest in proportion of any state in New England or in the group including New York, Pennsylvania, New Jersey, Ohio and Wisconsin.

## Literature

**Motor Fuels. Their Production and Technology.** A critical analysis of one of the automobile industry's chief subjects by Eugene H. Leslie of the University of Michigan. This exhaustive treatment of an all-important automotive factor will stand out as one of the most useful contributions to the subject of automobile engineering for 1923. Chapter 8, "The Thermal Reactions of Hydrocarbons" will be helpful in the consideration of engine design. For information address Book Dept., Chemical Catalog Co., Inc., 19 East 24th St., New York City.

**Pulling Together,** an excellent exposition of the employe representation plan by John T. Broderick, told in an interesting manner. The book records the discussion of a successful manufacturer who has put the plan into operation. Worth reading. Price, $2.00. Robson & Adee, Schenectady, N. Y.

**Highways and Highway Transportation.** This book has been written in the light of all the latest developments in motor truck field. Compiled with the hope of presenting the public with a new view of the vast development of the highway and its relation to commerce, the work will do much to spread the gospel of good roads. Among the interesting chapters are: Effect of Ease and Cost of Transportation of Production and Marketing; Financing Highways and Highway Transportation Lines; Automotive Transportation; Interrelation Between Highway and Other Kinds of Transportation; Transportation a Measure of Civilization. Should be read by all those who are interested in the progress of the American highways. Written by George R. Chatburn, University of Nebraska. Published by Thomas Y. Crowell Co., New York City.

**Reo Graph,** the Gasoline Alley Gazette, is a clever pamphlet house-organ, published by Campbell-Finley Motor Co., Inc., Oklahoma City, Okla., to help further the sales of Reos in that section.

**Making One Thing Better** is an attractive bit of literature published by the Federal Motor Truck Co., in the interest of the "specialized" type of manufacture. Several pages are devoted to each manufacturer who contributes a unit to the Federal truck. There is an interesting story on transportation from its early history to the present stage. Sent on request.

**The Law Relating to Automobile Insurance,** by John Simpson, is a condensed treatise on insurance cases decided and reported to date, presented in such a manner that the layman could use the volume to great advantage. Book can be obtained from the Eastern Underwriter Co., 86 Fulton St., New York City.

**The Farran-oid,** published by the Farran-oid Co., of Akron, made its first appearance with the April issue. This house organ is published for the benefit of jobbers' salesmen and contains some good selling advice.

**The Fawsco Wrench Co.,** 27 Warren St., New York City, has issued its latest revised catalog, No. 8 of Pawsco steel sockets, wrenches and tools.

**The Automobile Chassis.** Ben G. Elliott of the University of Wisconsin has written another commendable text book for school use on all parts of the gasoline automobile except the power plan, its immediate accessories and the body. Although a passenger car book, many of the principles described are applicable to trucks. Price, $2.50, McGraw-Hill Book Co., Inc., 370 Seventh Ave., New York City.

**Reasons for Reo,** an artistic brochure on the Reo organization, its manufacturing methods, its policies and its products. Attractively illustrated.

**Strickland's Battery Guide.** A handy little booklet for the battery owner that he may acquire information which will show him how to obtain the most from his battery. Concise, to the point and easy to understand. Written by C. J. Strickland, 422 W. 29th St., Norfolk, Va.

**The Care and Upkeep of Commercial Bodies,** a little booklet published by the Haskelite Manufacturing Co., 133 West Washington St., Chicago, contains a number of hints on systematic washing and body repairing for the fleet owner.

**A Brief for the Lincoln Highway in Utah and Nevada.** The Lincoln Highway Association has prepared a study of Western road strategy designed to aid in determining the road of most immediate importance connecting Salt Lake City, Utah, with California, addressed to the Secretary of Agricultural. A clear exposition of the Utah road controversy. Should be read by those interested in the progress of highway construction.

**Dangers of and Treatment for Carbon Monoxide Poisoning,** by R. R. Sayers and W. P. Yant, is a monograph published by the Department of the Interior, Bureau of Mines. As automobile exhaust gas contains 7 per cent carbon monoxide by volume, the paper can be read with profit in the automotive industry.

## Personal Items

**J. J. Blandin,** of Baltimore, formerly head of the rubber plantations' department of the Goodyear Tire & Rubber Co., has been appointed assistant chief of the section of the Department of Commerce which will conduct the crude rubber survey. He will assist H. N. Whitford.

**E. R. Frech,** formerly manager of the National Sales Division of the Packard Motor Car Company, has joined the National Sales Department of the Federal Motor Truck Co. He will be located in Chicago, where he has a large acquaintance built up through years of experience with motor truck transportation.

**E. D. Giauque** has been appointed advertising manager of the U. S. Light & Heat Co., Niagara Falls, N. Y., succeeding William E. Brewster who has resigned to join the Christian Science Monitor.

**O. W. Loomis** has been made manager of the malleable plant at Chicago by the National Malleable Castings Co. He succeeds O. J. Fehling, resigned.

**Lester A. Moohring** has been made treasurer of the Gray Tractor Co., Inc., of Minneapolis, Minn. His experience in the manufacture of passenger cars, trucks and gasoline engines will prove of great value to the Gray organization.

**H. A. Neill,** supervisor of branches of the General Motors Truck Co., Pontiac, Mich., has been appointed manager of the San Francisco branch, succeeding H. P. Smith, who died recently. Mr. Neill will also have charge of the Pacific Coast sales territory, as the company's district manager.

**J. F. Pope,** who has been with the Continental Motors Corp., for the past six years, is now factory representative of the Waukesha Motor Co., Waukesha, Wis. Mr. Pope has established an office in the Capitol Theater Bldg., Detroit, from which he will operate through the central territory, including Michigan, Ohio, Indiana and Ontario.

**Benjamin S. Pfeiffer,** well known throughout the industry, has recently been appointed consulting engineer for the Cotta Transmission Corp., Rockford, Ill. He has offices in the First National Bank Bldg., Chicago.

**H. C. Richards,** chairman of the Federal Council of Australian Motor Traders and member of the State Parliament of South Australia, is making a special trip to the United States to study modern transportation methods. Mr. Richards will confer with the National Automobile Chamber of Commerce on the coordination of motor and rail transport.

**C. F. Rouze,** of the sales department of the General Motors Truck Co., Pontiac, Mich., has been appointed northwestern district sales manager with headquarters in Kansas City.

**D. C. Stimson,** for many years identified with the motor truck industry, has been appointed central states sales manager of the Bethlehem Motors Corp., of New York, with plants at Allentown and Pottstown, Pa. His headquarters will be Chicago, and he will cover Michigan, Illinois, Indiana, Ohio, Wisconsin and Kentucky.

**C. S. Thomson,** export manager of the Four Wheel Drive Auto Co., Clintonville, Wis., recently left for South America, where he expects to visit all FWD dealers on that continent. He will be away for five months.

**W. I. Ward,** district manager for the Commerce Motor Truck Co., during the past six years, and formerly with Kelly-Springfield, has become associated with the United Motors Products Co., Grand Rapids, Mich., as district sales representative.

**Charles C. Younggreen,** who has been director of advertising and publicity of the J. I. Case Plow Works Co., Racine, Wis., has resigned to become vice-president the Klau-Van Pietersom-Dunlap Agency, Inc., of Milwaukee. The J. I. Case Company has placed its advertising account in the hands of Mr. Younggreen in his new connection.

## Trade Changes

**The Walker Vehicle Co.** branch office recently opened in Atlanta, Ga., is now installed at 1012 Atlanta Trust Bldg. This branch office was originaly established at 926 Hurt Bldg., the move to the new location having been made in May. P. C. Pomercy is in charge.

**North East Service, Inc.,** has moved its London branch to new and larger quarters at 17 Edge St., Notting Hill Gate, London. The branch is under the direction of John A. Findley, formerly research engineer with the Sterling Varnish Co., and previous to that European representative for Westinghouse.

**The Commercial Truck Co.,** of Philadelphia, has opened headquarters in San Francisco in the Sharon Bldg. K. I. Dazey will have charge of the new branch.

**The American-LaFrance Fire Engine Co.,** Elmira, N. Y., has opened a sales and service branch at 1265 Boylston St., Boston, Mass. E. W. Allen, formerly with a Packard branch, is manager of the New England branch.

**The Heil Company,** Milwaukee, has opened a branch office in Philadelphia at 26th and Parrish Sts. The branch is under the direction of George W. Kuhlman, who for the past four years has been sales engineer of that company.

**The Link-Belt Co.** has moved its Pittsburgh branch office from 1501 Park Bldg. to their new and more commodious offices at 335 Fifth Ave. T. F. Webster is in charge of the Pittsburgh offices.

**The Commerce Motor Truck Co.** announces the opening of a Detroit retail sales department with A. A. Lehr in charge.

**The Duplex Engine Governor Company, Inc.,** announces the removal of its Detroit office from 901 Kresge Bldg., to 702 Kresge Bldg.

# Replacement Table—Corrected Monthly

## Including Piston Ring Sizes, Carburetor Sizes, Hose Sizes, Fan Belt Sizes, Brake Lining Sizes and Truck Frame Dimensions

**Note: Under Carburetor Inlet Diameter Will be Found Either the Size of Main Air Intake or the Gasoline Fuel Line**

**Fan Belt Type: V—V-Shape, F—Flat, R—Round**

| NAME, MODEL AND TONNAGE | ENGINE | | | | | | | | | | | | BRAKE LINING | | | | | | | | FRAME | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Piston Rings | | Carburetor | | | Upper Hose | | Lower Hose | | Fan Belt | | | Service | | | | Emergency | | | | Length | | | Width | |
| | No. per Cyl. | Width | Outlet Diameter | Inlet Diameter | Vertical or Horizontal | Length | Width | Length | Width | Length | Width | Type | Length | Width | Thickness | No. of Pieces | Length | Width | Thickness | No. of Pieces | Back of Driver's Seat | Driver's Seat to Center of Rear Axle | Over All | Over All | Clearance at Lowest Point of Chassis |
| Ace, Series A–1½ | 3 | ¼ | 1 | 1 | V | 7 | 1¾ | 8 | 1¼ | 40⅝ | 2 | F | 12 | 3¼ | ¼ | 4 | 12 | 3¼ | ¼ | 4 | 122½ | 76⅜ | 215¼ | 32 | 9 |
| Ace, Series A–2 | 3 | ¼ | 1¼ | 1¼ | V | 10 | 2 | 11 | 1¼ | 42⅝ | 2 | F | 13½ | 3½ | ¼ | 4 | 13½ | 3½ | ¼ | 4 | Opt | 85 | 241 | 32 | 9½ |
| Ace 60–3 | 3 | ¼ | 1¼ | 1¼ | V | 10 | 2 | 15 | 1¼ | 42⅝ | 2 | F | 13½ | 3½ | ¼ | 4 | 13½ | 3½ | ¼ | 4 | Opt | 84½ | 241 | ..... | 9½ |
| Acme 20–1 | 3 | ¼ | 1 | 1 | H | 11 | 2 | 11 | 2 | 38¾ | ¾ | V | 11½ | 2½ | ¼ | 2 | 11½ | 2½ | ¼ | 2 | 110⅜ | 63⅜ | 194 | 34 | 11 |
| Acme 30–1½ | 3 | ¼ | 1 | 1 | V | 11 | 2 | 11 | 2 | 38¾ | ¾ | V | 12 | 3 | ¼ | 2 | 12 | 3 | ¼ | 2 | 110⅜ | 63⅜ | 194 | 34 | 10½ |
| Acme 40–2 | 4 | ¼ | 1 | 1 | V | 8 | 1½ | 11 | 1½ | 40 | 1½ | F | 12 | 3¼ | ¼ | 2 | 12 | 3¼ | ¼ | 2 | 123⅜ | 74⅜ | 208 | 34 | 9¾ |
| Acme 40L–2 | 4 | ¼ | 1¼ | 1¼ | V | 11½ | 1½ | 12½ | 1½ | 39½ | 1½ | F | 12 | 3¼ | ¼ | 2 | 12 | 3¼ | ¼ | 2 | 123⅜ | 74⅜ | 214½ | 34 | 9¾ |
| Acme 60–2½ | 4 | ¼ | 1¼ | 1¼ | V | 11½ | 1½ | 12½ | 1½ | 39½ | 1½ | F | 12 | 3¼ | ¼ | 2 | 12 | 3¼ | ¼ | 2 | 132⅜ | 79⅝ | 223½ | 34 | 10 |
| Acme 60L–3 | 4 | ¼ | 1¼ | 1¼ | V | 11½ | 1½ | 12½ | 1½ | 41¾ | 1½ | F | 13 | 3½ | ¼ | 2 | 13 | 3½ | ¼ | 2 | 140⅜ | 79⅝ | 235½ | 34 | 10 |
| Acme K (Bus) | 4 | ¼ | 1¼ | 1¼ | V | 11½ | 1½ | 12½ | 1½ | 41¾ | 1½ | F | 13 | 3½ | ¼ | 2 | 13 | 3½ | ¼ | 2 | 260¾ | 168¾ | 312 | 41⅜ | 6 |
| Acme 90–3½ | 4 | ¼ | 1¼ | 1¼ | V | 10 | 1½ | 12 | 1½ | 41¾ | 1½ | F | 15½ | 3¾ | ¼ | 2 | 15½ | 3¾ | ¼ | 2 | 150¼ | 95¼ | 243 | 36 | 10¾ |
| Acme 90L–4 | 4 | ¼ | 1¼ | 1¼ | V | 10 | 1½ | 10 | 1½ | 40½ | 1¾ | F | 15½ | 3¾ | ¼ | 2 | 15½ | 3¾ | ¼ | 2 | 153¾ | 96¾ | 255 | 37 | 10¾ |
| Acme 125–5 | 4 | ¼ | 1½ | 1½ | V | 10 | 1½ | 10 | 1½ | 40½ | 1¾ | F | 15½ | 3¾ | ¼ | 2 | 15½ | 3¾ | ¼ | 2 | 159¾ | 99¾ | 261 | 37 | 10 |
| American La France 1R–¾ | 3 | ¼ | 1 | 1 | H | 10 | 1½ | 10 | 1½ | 45 | 1½ | ... | 18 | 4 | ¼ | 2 | 18 | 4 | ¼ | 2 | 108 | 60 | 207 1/16 | ..... | 10 |
| American La France 2R–2 | 3 | ¼ | 1 | 1 | H | 9 | 1½ | 9 | 1½ | 40¾ | 2 | ... | * | * | ¼ | 2 | 48¾ | 2¾ | ¼ | 2 | 156 | 98 | 252 | ..... | 10 |
| American La France 2R–2 | 3 | ¼ | 1 | 1 | H | 9 | 1½ | 9 | 1½ | 40¾ | 2 | ... | † | † | ¼ | 2 | 17 | 3½ | ¼ | 4 | 132 | 81 | 231 1/16 | ..... | 10 |
| American La France 2R–2 | 3 | ¼ | 1 | 1 | H | 9 | 1½ | 9 | 1½ | 40¾ | 2 | ... | ‡ | ‡ | ¼ | 2 | 17 | 3½ | ¼ | 4 | 144 | 90 | 243 1/16 | ..... | 9 |
| American La France 3R–3½ | 3 | ¼ | 1 | 1 | H | 9 | 1 | 9 | 1½ | 40¾ | 2 | ... | 11¾ | 8 | ¼ | 2 | 21 | 4 | ¼ | 4 | 168 | 104 | 267 7/8 | ..... | 9 |
| American La France 3R–3½ | 3 | ¼ | 1 | 1 | H | 9 | 1 | 9 | 1½ | 40¾ | 2 | ... | 11¾ | 8 | ¼ | 2 | 21 | 4 | ¼ | 4 | 192 | 114 | 291 7/8 | ..... | 9 |
| American La France 3R–3½ | 3 | ¼ | 1 | 1 | H | 9 | 1½ | 9 | 1½ | 40¾ | 2 | ... | 11¾ | 8 | ¼ | 2 | 21 | 4 | ¼ | 4 | 144 | 90 | 243 1/8 | ..... | 10 |
| American La France 3R–3½ | 3 | ¼ | 1 | 1 | H | 9 | 1½ | 9 | 1½ | 40¾ | 2 | ... | 11¾ | 8 | ¼ | 2 | 21 | 4 | ¼ | 4 | 168 | 104 | 267 1/8 | ..... | 10 |
| American La France 5R–5 | 3 | ¼ | 1 | 1 | H | 9 | 1½ | 9 | 1½ | 40¾ | 2 | ... | 11¾ | 8 | ¼ | 2 | 21 | 4 | ¼ | 4 | 192 | 114 | 291 7/8 | ..... | 10 |
| American La France 5R–5 | 3 | ¼ | 1 | 1 | H | 9 | 1½ | 9 | 1½ | 40¾ | 2 | ... | 11¾ | 8 | ¼ | 2 | 21 | 4 | ¼ | 4 | Opt | 67¾ | 218 | 32 | 9¾ |
| American La France 5R–5 | 3 | ¼ | 1 | 1 | H | 9 | 1½ | 9 | 1½ | 40¾ | 2 | ... | 12 | 3¼ | ¼ | 4 | 12 | 3¼ | ¼ | 4 | Opt | 74 ⅞ | 217¾ | 32 | 9¾ |
| American La France 5R–5 | 3 | ¼ | 1 | 1 | H | 10 | 1½ | 10 | 1½ | 31½ | 2 | F | 12 | 3½ | ¼ | 4 | 12 | 3½ | ¼ | 4 | Opt | 74 ⅞ | 217¾ | 32 | 9¾ |
| Armleder 21–1½ | 4 | ¼ | 1 | | V | 9½ | 2 | 11½ | 1¼ | 33¼ | 2 | F | 12 | 3½ | ¼ | 4 | 12 | 3½ | ¼ | 4 | Opt | 89 | 261½ | 36 | 8 |
| Armleder 40B–1½ | 4 | ¼ | 1¼ | | V | 8½ | | 11½ | 1¼ | 34 | 1¼ | F | 16 | 3¾ | ¼ | 8 | 16 | 3¾ | ¼ | 8 | Opt | 89 | 261½ | 36 | 8 |
| Armleder 40C–1½ | 3 | ¼ | 1¼ | | V | 12 | 2 | 16½ | 1¼ | 35¾ | 2 | F | 37 | 3 | ⅞ | 8 | 37 | 3 | ⅞ | 8 | Opt | 74 ⅞ | 217¾ | 32 | 10 |
| Armleder KWB–3½ | 4 | ¼ | 1¼ | | V | 10 | 1½ | 16½ | 1¼ | 35¾ | 2 | F | 13¼ | 3½ | ¼ | 4 | 13¼ | 3½ | ¼ | 4 | Opt | 74 ⅞ | 217¾ | 32 | 10 |
| Armleder KWC–3½ | 3 | ¼ | 1¼ | | V | 9½ | 2 | 11½ | 1¼ | 33¼ | 2 | F | 13¼ | 3½ | ¼ | 4 | 13¼ | 3½ | ¼ | 4 | Opt | 74 ⅞ | 217¾ | 32 | ..... |
| Armleder HWB–2½ | 4 | ¼ | 1¼ | | V | 8½ | 1¼ | 11½ | 1¼ | 34 | 1⅛ | F | 25½ | 2½ | ⅞ | 4 | 18 | 2½ | ⅞ | 4 | 109¾ | ..... | ..... | 32 | ..... |
| Armleder HWC–2½ | 3 | ¼ | 1¼ | | V | 11 | 2 | 11 | 1¼ | 31½ | 2 | F | 46 | 2½ | ⅞ | 2 | 46 | 2¼ | ⅞ | 2 | 109¾ | ..... | ..... | 32 | ..... |
| Atco B1½ | 4 | ¼ | 1 | 1 | V | 11 | 2 | 11 | 1¼ | 31½ | 2 | F | 46 | 2½ | ⅞ | 2 | 46 | 2¼ | ⅞ | 2 | 124¼ | ..... | ..... | 33 | ..... |
| Atco B1–1½ | 4 | ¼ | 1 | 1¼ | V | 12 | 2 | 11 | 1¼ | 33¾ | 1¼ | F | 25½ | 2½ | ⅞ | 4 | 18 | 2½ | ⅞ | 4 | 84¾ | ..... | ..... | 33¾ | ..... |
| Atco A–2½ | 4 | ¼ | 1¼ | | V | 10 | 1½ | 11 | 1 | 33½ | 1½ | F | 40 | 2 | ⅞ | 4 | 22½ | 2¼ | ⅞ | 4 | 122⅛ | 72⅛ | 211¾ | 34 | 9½ |
| Atlas 22–1 | 3 | ¼ | 1 | | | 8 | 1½ | 14 | 1½ | 38 11/16 | 1¼ | F | 11 | 3¼ | ¼ | 4 | 11 | 3¼ | ¼ | 4 | 129¼ | 78¾ | 225 | 34 | 9⅞ |
| Atterbury 20R–1½ | 4 | ¼ | 1 | | ⅜ | .... | 1½ | 16 | 1½ | 40½ | 1½ | F | 13 | 3½ | ¼ | 4 | 13 | 3½ | ¼ | 4 | 142¾ | 93¼ | 242 | 37½ | 8 |
| Atterbury 22C–2½ | 4 | ¼ | 1¼ | | ⅜ | .... | 1½ | 16 | 1½ | 40½ | 1½ | F | 15⅛ | 3¾ | ¼ | 4 | 15⅛ | 3¾ | ¼ | 4 | 157⅞ | 80⅞ | 263 | 37½ | 10 |
| Atterbury 22D–3½ | 4 | ¼ | 1½ | | ⅜ | .... | 2 | 20½ | 2 | 40 | 2 | F | 17¾ | 4 | ¼ | 4 | 17¾ | 4 | ¼ | 4 | 91 | 67 | 156 | 34 | 9½ |
| Atterbury 8E–5 | 3 | ¼ | 1 | | ⅜ | .... | | | | | | | 16¼ | 2½ | ⅞ | 4 | 13½ | 2½ | ⅞ | 4 | 114 | 90 | 179 | 34 | 9½ |
| Autocar XXI–F–1½ | 4 | ¼ | 1⅛ | .... | .... | 3-4 | 1⅛ | 5 | 1⅛ | ..... | ..... | ... | 16¼ | 2½ | ⅞ | 4 | 13½ | 2½ | ⅞ | 4 | 140 | 80¾ | 223 | 34⅛ | 10 |
| Autocar XXI–G–1½ | 4 | ¼ | 1⅛ | .... | .... | 3-4 | 1⅛ | 5 | 1⅛ | ..... | ..... | ... | 25½ | 2¾ | ¼ | 4 | 25½ | 2¾ | ¼ | 4 | 176 | 116¾ | 259 | 34⅛ | 10 |
| Autocar XXVI–5 | 3 | ¼ | 1⅛ | .... | .... | 3½ | 1½ | 3½ | 1½ | 49¼ | 2 | F | 25½ | 2¾ | ¼ | 4 | 25½ | 2¾ | ¼ | 4 | 131½ | 76 | 213 | 34⅛ | 10⅛ |
| Autocar XXVI–5 | 3 | ¼ | 1⅛ | .... | .... | 3½ | 1½ | 3½ | 1½ | 47¼ | 2 | F | 22⅝ | 2 | ¼ | 4 | 22⅝ | 2 | ¼ | 4 | 155½ | 100 | 237 | 34⅛ | 10⅛ |
| Autocar XXVII–2 | 3 | ¼ | 1⅛ | .... | .... | 3½ | 1½ | 3½ | 1½ | 47¼ | 2 | F | 22⅝ | 2 | ¼ | 4 | 22⅝ | 2 | ¼ | 4 | 120 | 80½ | 201¼ | 32 | 9 |
| Autocar XXVII–2 | 3 | ¼ | 1⅛ | .... | .... | 3½ | 1⅝ | 14 | 1⅝ | 40 | 2 | ... | 48 | 2½ | ¼ | 2 | 36 | 2½ | ¼ | 2 | 120 | 84½ | 212 | 32 | 9 |
| Available H–1½ | 4 | ¼ | 2¼ | 1⅛ | .... | 11 | 1⅝ | 14 | 1⅝ | 40 | 2 | F | 48 | 2½ | ¼ | 2 | 36 | 2½ | ¼ | 2 | 144 | 85⅝ | 226⅞ | 32 | 9 |
| Available H2 | 4 | ¼ | 2¼ | 1⅛ | V | 12 | 1⅝ | 14 | 1⅝ | 40 | 2 | ... | 13½ | 3½ | ¼ | 4 | 13½ | 3½ | ¼ | 4 | 168 | 106⅜ | 254⅞ | 36 | 9 |
| Available H–2½ | 3 | ¼ | 2¼ | 1⅛ | .... | 11 | 1⅝ | 14 | 1⅝ | 42 | 2 | F | 16 | 3¾ | ¼ | 4 | 16 | 3¾ | ¼ | 4 | 168 | 112⅝ | 263⅛ | 38 | 9 |
| Available H3½ | 4 | ¼ | 2½ | 1⅛ | V | 12 | 1⅝ | 14 | 1⅝ | 42 | 2 | ... | 18 | 4 | ¼ | 4 | 18 | 4 | ¼ | 4 | 168 | 112⅝ | 263⅛ | 38 | 9 |
| Available H5 | 3 | ¼ | 2½ | 1⅛ | .... | 12 | 2 | 16 | 2 | 40 | 2 | ... | 18 | 4 | ¼ | 4 | 18 | 4 | ¼ | 4 | 168 | 112⅝ | 263⅛ | 38 | 9 |
| Avery 1 | 3 | ¼ | .... | 1 | .... | 10 | 2 | 6½ | 2 | 31¼ | 1½ | F | 19½ | 2 | ¼ | 4 | 18½ | 2 | ¼ | 4 | 85 | 49 | 169½ | 34 | 13 |
| Bell M–1 | 4 | ¼ | 1 | ¼ | V | 10 | 2 | 10 | 1½ | 32 | 2 | F | 36 | 2½ | ¼ | 1 | 42 | 3 | ¼ | 1 | 110 | ..... | ..... | 34 | ..... |
| Bell E–1½ | 4 | ¼ | 1 | ¼ | V | 10 | 2 | 10 | 1½ | 32 | 2 | F | 39 | 2½ | ¼ | 1 | 48 | 3 | ¼ | 1 | 114 | ..... | ..... | 34 | ..... |
| Bell O–2½ | 4 | ¼ | 1¼ | ¼ | V | 10 | 2 | 10 | 1½ | 32 | 2 | F | 48 | 2½ | ¼ | 1 | 54 | 3 | ¼ | 1 | 126 | ..... | ..... | 34 | ..... |
| Belmont B–1 | 3 | ¼ | 1 | 1 | V | 10 | 2¼ | 12 | 2¼ | 33½ | ¾ | F | 36½ | 1½ | ¼ | 1 | 34½ | 1½ | ¼ | 1 | 85 | 50 | 165 | 34 | 11½ |
| Belmont D–2 | 3 | ¼ | 1¼ | 1 | V | 10½ | 2¼ | 9 | 1¾ | 34 | 2 | F | 51 | 3¼ | ¼ | 1 | 47 | 2¼ | ¼ | 1 | 119⅝ | 87⅛ | 212⅜ | 34 | 11 |
| Belmont E–3 | 3 | ¼ | 1¼ | 1¼ | V | 10¾ | 2¼ | 14 | 1¾ | 34 | 2 | F | 51 | 3¼ | ¼ | 1 | 47 | 2¼ | ¼ | 1 | 137½ | 88½ | 233½ | 34 | 11 |
| Bessemer G–1 | 3 | ¼ | 1 | 1¼ | V | 11½ | 2¼ | 10 | 2¼ | 42 | ⅝ | V | 46 | 2½ | ¼ | 2 | 44 | 2¼ | ¼ | 2 | 98¼ | 58½ | 182¾ | 34 | ..... |
| Bessemer H–2–1½ | 3 | ¼ | 1 | ¼ | V | 11½ | 2¼ | 10 | 2¼ | 43 | ⅝ | V | 16⅜ | 2 | ¼ | 8 | 16⅜ | 2 | ¼ | 8 | 116 | 76 | 203 | 34 | ..... |
| Bessemer J2–2½ | 3 | ¼ | 1 | ¼ | V | 12 | 1½ | 10 | 2¼ | 36¼ | 1¼ | F | 18⅜ | 2¼ | ¼ | 8 | 18⅜ | 2¼ | ¼ | 8 | 142⅜ | 92¼ | 229 | 34 | ..... |
| Bessemer K2–4 | 3 | ¼ | 1¼ | ¼ | V | 11½ | 2¼ | 10 | 2¼ | 39⅜ | 1½ | F | 55 | 3½ | ¼ | 2 | 33 | 4½ | ¼ | 1 | 157½ | 108 | 249 | 38 | ..... |
| Bethlehem KN–1 | 3 | ¼ | .... | 1¼ | V | 8¾ | 2⅛ | 8 | 2⅛ | 35½ | 1¼ | F | 49½ | 2¼ | ¼ | 1 | 20 | 2¼ | ¼ | 2 | 89¼ | 56¼ | 175 | 32 | 10½ |
| Bethlehem GN–2 | 3 | ¼ | .... | 1¼ | V | 8½ | 2⅜ | 9½ | 2⅜ | 40½ | 1½ | F | 52 | 2½ | ¼ | 1 | 37 | 2½ | ¼ | 1 | 116¾ | 74 | 208¼ | 34½ | 9¼ |
| Bethlehem HN–3 | 3 | ¼ | .... | ⅜ | .... | 8½ | 2⅜ | 9½ | 2⅜ | 40⅞ | 1½ | F | 61 | 2½ | ¼ | 1 | 47 | 2½ | ¼ | 1 | 134¾ | 81½ | 226¼ | 34½ | 8½ |
| Brinton C–1½ | 3 | ¼ | 1 | ⅜ | .... | 11 | 1¼ | 13 | 1¼ | 33 | ⅝ | V | 39 | 2½ | ¼ | 2 | 38 | 2½ | ¼ | 2 | 118 | ..... | ..... | ..... | 33 |
| Brinton D–2½ | 3 | ¼ | 1 | ⅜ | .... | 11 | 1¼ | 13 | 1¼ | 33 | ⅝ | V | 13 | 3½ | ¼ | 2 | 13 | 3½ | ¼ | 2 | 135½ | ..... | ..... | ..... | 33 |
| Brockway S2–1½ | 3 | ¼ | 1 | 1 | .... | 10½ | 2¼ | 5½ | 2¼ | 39 | 1¼ | F | 20 | 2 | ¼ | 4 | 20 | 2 | ¼ | 4 | 118 | 72 | 118½ | 32 | ..... |
| Brockway K4–2½ | 3 | ¼ | 1 | 1¼ | .... | 6½ | 1¾ | 13 | 1¾ | 34 | 1¼ | F | 13 | 3½ | ¼ | 4 | 13 | 3½ | ¼ | 4 | 142 | 89½ | 123½ | 34 | ..... |
| Brockway R–2–3½ | 3 | ¼ | 1¼ | 1¼ | .... | 9½ | 1¾ | 14 | 1¾ | 34 | 1¼ | F | 15⅛ | 3¾ | ¼ | 4 | 15⅛ | 3¾ | ¼ | 4 | 176 | 102¾ | 175 | 36 | ..... |
| Brockway T–5 | 3 | ¼ | 1½ | 1¼ | .... | 13 | 2 | 22 | 2 | 40⅜ | 2 | F | 17¾ | 4 | ¼ | 4 | 17¾ | 4 | ¼ | 4 | 176 | 104½ | 176 | 36 | ..... |
| Buffalo Tractor-Truck | 4 | ¼ | 1¼ | ¼ | V | 7 | 1⅝ | 13 | 1⅝ | 41½ | 2 | F | 21 | 2¼ | ¼ | 4 | 21 | 2¼ | ¼ | 4 | 124 | 82½ | 224 | 34 | 9¾ |
| Casco A–1 | 4 | ¼ | 1 | ¼ | V | 12 | 1¾ | 14½ | 1¼ | 34¾ | 1½ | F | 48½ | 2½ | ¼ | 1 | 48 | 2¼ | ¼ | 1 | 104 | 61 | 192¼ | 34 | 10 |
| Case | 3 | ¼ | 1 | 1 | V | 7 | 1½ | 6 | 1½ | 47⅞ | 2 | ... | 25½ | 2½ | ¼ | 4 | 24¼ | 2¼ | ¼ | 4 | 106 | 59¼ | 210 | 31 | 13½ |
| Chicago C–1½ | 4 | .... | 1 | 1½ | .... | 11 | 1½ | 15 | 1½ | 40 | 2 | ... | 10 | 2½ | ¼ | 4 | 10 | 2 | ¼ | 4 | 145½ | 75 ⅞ | 211½ | 32 | ..... |
| Chicago C–2½ | 4 | .... | 1¼ | 1¼ | .... | 11 | 1½ | 15 | 1½ | 40 | 2 | ... | 10 | 2½ | ¼ | 4 | 10 | 2 | ¼ | 4 | 157½ | 87 ⅞ | 223½ | 32 | ..... |
| Chicago C–3½ | 4 | .... | 1¼ | 1¼ | .... | 11 | 1½ | 15 | 1½ | 46 | 2 | ... | 12 | 3¼ | ¼ | 4 | 12 | 2¼ | ¼ | 4 | 170 | 84½ | 249 | 36¾ | ..... |
| Chicago D–5 | 4 | .... | 1¼ | 1¼ | .... | 11 | 1½ | 15 | 1½ | 46 | 2 | ... | 12 | 3¼ | ¼ | 4 | 12 | 2¼ | ¼ | 4 | 170 | 84½ | 249 | 36¾ | ..... |

* Disk Brake 10¼ O. D. 6½ I. D. † 12 O. D. 7½ I. D. ‡ 12 O. D. 7½ I. D.

# Replacement Table—Continued

| NAME, MODEL AND TONNAGE | ENGINE | | | | | | | | | | | | BRAKE LINING | | | | | | | | FRAME | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Piston Rings | | Carburetor | | | Upper Hose | | Lower Hose | | Fan Belt | | | Service | | | | Emergency | | | | Length | | | Width | |
| | No. per Cyl. | Width | Outlet Diameter | Inlet Diameter | Vertical or Horizontal | Length | Width | Length | Width | Length | Width | Type | Length | Width | Thickness | No. of Pieces | Length | Width | Thickness | No. of Pieces | Back of Driver's Seat | Driver's Seat to Center of Rear Axle | Over All | Over All | Clearance at Lowest Point of Chassis |
| Climber A–20 | 3 | 1/4 | 1 | 1 1/4 | H | 17 1/2 | 1 1/2 | 17 1/2 | 1 1/2 | 32 | 1 | F | 16 | 2 1/4 | 1/4 | 2 | 16 | 2 1/8 | 1/4 | 1 | 120 | 96 | 216 | 34 | 14 |
| Clydesdale 120B–5–6 | 3 | 1/4 | 1 11/16 | 1/4 | V | 9 | 2 | 18 1/2 | 2 | 46 1/2 | 2 | F | 18 | 4 | 1/4 | 4 | 18 | 4 | 1/4 | 4 | 131 | ..... | ..... | 38 | ..... |
| Clydesdale 90–3 1/2–4 1/2 | 3 | 1/4 | 1 5/8 | 1/4 | V | 9 | 1 1/2 | 14 | 1 1/2 | 42 | 1 1/2 | F | 16 | 3 3/4 | 1/4 | 4 | 16 | 3 3/4 | 1/4 | 4 | 143 | ..... | ..... | 38 | ..... |
| Clydesdale 65EX 2 1/2–3 | 3 | 1/4 | 1 5/8 | 1/4 | V | 9 | 1 1/2 | 14 | 1 1/2 | 42 | 1 1/2 | F | 13 1/4 | 3 1/2 | 1/4 | 4 | 13 1/4 | 3 1/2 | 1/4 | 4 | 132 | ..... | ..... | 33 1/4 | ..... |
| Clydesdale 65X–2 1/2–3 | 3 | 1/4 | 1 1/16 | 1/4 | V | 11 | 1 1/2 | 11 | 1 1/2 | 11 | 1 1/2 | F | 13 1/4 | 3 1/2 | 1/4 | 4 | 13 1/4 | 3 1/2 | 1/4 | 4 | 137 | ..... | ..... | 33 1/4 | ..... |
| Clydesdale 42–1 1/2–2 | 3 | 1/4 | 1 1/16 | 1/4 | V | 15 | 2 | 12 | 2 | 41 | 3/4 | V | 12 | 3 1/4 | 1/4 | 4 | 12 | 3 1/4 | 1/4 | 4 | 117 | ..... | ..... | 34 | ..... |
| Clydesdale 20–1–1 1/2 | 3 | 1/4 | 1 1/16 | 1/4 | V | 15 | 2 | 12 | 2 | 41 | 3/4 | V | 11 1/4 | 3 | 1/4 | 4 | 11 1/4 | 3 | 1/4 | 4 | 95 | ..... | ..... | 34 | ..... |
| Clydesdale 18–3/4–1 1/4 | 3 | 1/4 | 1 1/16 | 1/4 | V | 15 | 2 | 12 | 2 | 41 | 3/4 | V | 11 1/4 | 2 1/2 | 1/4 | 4 | 11 1/4 | 2 1/2 | 1/4 | 4 | 95 | ..... | ..... | 34 | ..... |
| Clydesdale 10–3/4–1 1/4 | 3 | 1/4 | 1 1/16 | 1/4 | V | 9 | 2 | 9 | 2 | 41 | 3/4 | V | 11 1/4 | 2 1/2 | 1/4 | 4 | 11 1/4 | 2 1/2 | 1/4 | 4 | 109 | ..... | ..... | 34 | ..... |
| Clydesdale 10A–1–3/4–1 1/4 | 3 | 1/4 | 1 1/16 | 1/4 | V | 9 | 2 | 9 | 2 | 41 | 3/4 | V | 11 1/4 | 2 1/2 | 1/4 | 4 | 11 1/4 | 2 1/2 | 1/4 | 4 | 109 | ..... | ..... | 34 | ..... |
| Commerce 9–1500 | 3 | 1/4 | 1 | 1/4 | V | 10 | 2 | 10 | 2 | 44 | 3/4 | V | 50 | 2 | 1/4 | 2 | 48 1/2 | 2 | 1/4 | 2 | 92 5/8 | 53 5/8 | 193 | 34 | 9 |
| Commerce 14B–3000 | 4 | 1/4 | 1 | 1/4 | V | 10 | 2 | 9 1/2 | 1 1/2 | 39 3/4 | 1/4 | F | 11 1/16 | 3 1/4 | 1/4 | 4 | 11 1/16 | 3 1/4 | 1/4 | 4 | 117 | 75 | 210 | 34 | 8 1/4 |
| Commerce 25B–5000 | 4 | 1/4 | 1 1/4 | 1/4 | V | 9 1/2 | 1 1/2 | 15 1/2 | 1 1/2 | 42 | 1 1/2 | F | 13 | 3 1/2 | 1/4 | 4 | 13 | 3 1/2 | 1/4 | 4 | 132 | 84 | 228 1/2 | 34 | 12 1/2 |
| Concord A–2 | 4 | 1/4 | 1 1/4 | 1/4 | H | 11 | 2 3/8 | 9 1/2 | 1 1/2 | 34 | 2 | F | 12 | 3 1/4 | 1/4 | 4 | 12 | 3 1/4 | 1/4 | 4 | 108 1/4 | ..... | ..... | 32 1/4 | ..... |
| Concord AX–2 | 4 | 1/4 | 1 1/4 | 1/4 | H | 11 | 2 3/8 | 9 1/2 | 1 1/2 | 34 | 2 | F | 12 | 3 1/4 | 1/4 | 4 | 12 | 3 1/4 | 1/4 | 4 | 122 3/4 | ..... | ..... | 32 1/4 | ..... |
| Concord B–3 | 4 | 1/4 | 1 1/4 | 1/4 | H | 11 | 2 3/8 | 9 1/2 | 1 1/2 | 34 | 2 | F | 13 1/2 | 3 1/2 | 1/4 | 4 | 13 1/2 | 3 1/2 | 1/4 | 4 | 122 1/2 | ..... | ..... | 32 1/4 | ..... |
| Concord BX–3 | 4 | 1/4 | 1 1/4 | 1/4 | H | 11 | 2 3/8 | 9 1/2 | 1 1/2 | 34 | 2 | F | 13 1/2 | 3 1/2 | 1/4 | 4 | 13 1/2 | 3 1/2 | 1/4 | 4 | 155 5/8 | ..... | ..... | 32 1/4 | ..... |
| Corbitt S–3/4 | 3 | 1/4 | 1 | 1/4 | .... | 8 | 2 | 14 | 2 | 38 | 5/8 | V | 19 | 2 | 1/4 | 2 | 19 | 2 | 1/4 | 2 | 105 | ..... | ..... | 34 | ..... |
| Corbitt D–1 1/2 | 3 | 1/4 | 1 1/4 | 1/4 | .... | 8 | 2 | 14 | 2 | 38 | 5/8 | V | 45 1/4 | 2 | 1/4 | 1 | 45 1/4 | 2 | 1/4 | 1 | 120 | ..... | ..... | 34 | ..... |
| Corbitt C–2 | 3 | 1/4 | 1 1/4 | 1/4 | .... | 14 | 1 1/4 | 13 | 1 1/4 | 36 | 1 1/4 | F | 51 1/2 | 2 1/4 | 1/4 | 1 | 51 1/2 | 2 1/4 | 1/4 | 1 | 138 | ..... | ..... | 35 | ..... |
| Corbitt B–2 1/2 | 3 | 1/4 | 1 1/4 | 1/4 | .... | 14 | 1 1/4 | 13 | 1 1/4 | 36 | 1 1/4 | F | 51 1/2 | 2 1/4 | 1/4 | 1 | 51 1/2 | 2 1/4 | 1/4 | 1 | 138 | ..... | ..... | 35 | ..... |
| Corbitt AA–5 | 3 | 1/4 | 1 1/2 | 1/4 | .... | 13 | 1 1/4 | 8 | 1 1/4 | 36 | 2 | V | 69 1/4 | 3 | 1/4 | 1 | 69 1/4 | 3 | 1/4 | 1 | 160 | ..... | ..... | 38 | ..... |
| Corbitt A–4 | 3 | 1/4 | 1 1/4 | 1/4 | .... | 13 | 2 | 14 | 2 | 36 | 1 1/4 | V | 64 | 2 1/2 | 1/4 | 1 | 64 | 2 1/2 | 1/4 | 1 | 160 | ..... | ..... | 35 | ..... |
| Cyclone A–3000 | 3 | 1/4 | 1 | 1 | V | 16 | 2 | 16 | 2 | 32 1/2 | 1 1/4 | F | 21 1/4 | 2 1/2 | 1/4 | 4 | 19 3/4 | 2 1/4 | 1/4 | 4 | 113 | ..... | ..... | 34 | ..... |
| Day-Elder AN–1 1/2 | 3 | 1/8 | 1 | 1 1/4 | V | 8 | 1 11/16 | .... | 1 1/2 | ..... | 1 1/2 | F | ..... | 3 | 1/4 | 4 | ..... | 3 | 1/4 | 4 | 108 | 35 | ..... | ..... | ..... |
| Day-Elder BN–2 | 3 | 1/8 | 1 | 1 1/4 | V | 6 | 1 1/2 | .... | 1 1/2 | ..... | 1 1/4 | F | ..... | 3 1/4 | 1/4 | 4 | ..... | 3 1/4 | 1/4 | 4 | 120 | 35 | ..... | ..... | ..... |
| Day-Elder DN–2 1/2 | 3 | 1/8 | 1 1/4 | 1 1/2 | V | 7 | 1 1/2 | .... | 1 1/2 | ..... | 1 1/2 | F | ..... | 3 1/2 | 1/4 | 4 | ..... | 3 1/2 | 1/4 | 4 | 125 | 35 | ..... | ..... | ..... |
| Day-Elder CN–3 | 3 | 1/4 | 1 1/4 | 1 1/2 | V | 10 1/2 | 2 | .... | 1 3/8 | ..... | 1 1/2 | F | ..... | 3 1/2 | 1/4 | 4 | ..... | 3 1/2 | 1/4 | 4 | 123 | 35 | ..... | ..... | ..... |
| Day-Elder FN–4 | 3 | 1/8 | 1 1/2 | 1 3/4 | V | 6 | 1 1/2 | .... | 1 1/2 | ..... | 1 1/2 | F | ..... | 3 3/4 | 1/4 | 4 | ..... | 3 3/4 | 1/4 | 4 | 148 | 35 | ..... | ..... | ..... |
| Day-Elder EN–5–6 | 4 | 1/4 | 1 1/2 | 1 3/4 | V | 12 | 2 | .... | 1 1/4 | ..... | 2 | F | ..... | 4 | 1/4 | 4 | ..... | 4 | 1/4 | 4 | 155 | 37 | ..... | ..... | ..... |
| Defiance B–1 1/2 | 3 | 1/4 | 1 | 1 | V | 10 | 2 | 8 | 2 | 40 3/4 | 1 1/4 | F | 45 | 2 1/2 | 1/4 | 1 | 43 1/16 | 2 1/4 | 1/4 | 1 | 116 | ..... | ..... | 34 | ..... |
| Defiance 48–2 | 3 | 1/4 | 1 | 1 | V | 10 | 2 | 8 | 2 | 40 3/4 | 1 1/4 | F | 54 1/16 | 2 1/2 | 1/4 | 1 | 52 1/2 | 2 1/4 | 1/4 | 1 | 116 | ..... | ..... | 34 | ..... |
| Defiance D | 3 | 1/4 | 1 | 1 | V | 10 | 2 | 8 1/2 | 1 1/4 | 40 3/4 | 1 1/4 | F | 45 | 2 1/2 | 1/4 | 1 | 43 1/16 | 2 1/4 | 1/4 | 1 | 120 | ..... | ..... | 34 | ..... |
| Defiance E | 3 | 1/4 | 1 | 1 | V | 10 | 2 | 8 1/2 | 1 1/4 | 40 3/4 | 1 1/4 | F | 54 1/16 | 2 1/2 | 1/4 | 1 | 52 1/2 | 2 1/4 | 1/4 | 1 | 120 | ..... | ..... | 34 | ..... |
| Defiance EL | 3 | 1/4 | 1 | 1 | V | 10 | 2 | 8 1/2 | 1 1/4 | 40 3/4 | 1 1/4 | F | 54 1/16 | 2 1/2 | 1/4 | 1 | 52 1/2 | 2 1/4 | 1/4 | 1 | 140 | ..... | ..... | 34 | ..... |
| Denby 31–1 1/4 | 3 | 1/4 | 1 | 1 | .... | 9 | 2 | 12 | 2 | 41 1/16 | 3/4 | V | 8 1/2 | 4 | 1/4 | 2 | 52 | 2 1/2 | 1/4 | 2 | 97 5/8 | ..... | ..... | 34 | ..... |
| Denby 33–2 | 3 | 1/8 | 1 | 1 | .... | 9 | 2 | 12 | 2 | 41 1/16 | 3/4 | V | 8 1/2 | 4 | 1/4 | 2 | 46 1/2 | 1 1/2 | 1/4 | 2 | 120 | ..... | ..... | 33 1/4 | ..... |
| Denby 35–3 | 3 | 1/8 | 1 1/4 | 1 1/4 | .... | 8 | 1 5/8 | 14 1/4 | 1 1/4 | 34 1/4 | 1 1/4 | F | 8 1/2 | 4 | 1/4 | 2 | 51 | 3 | 1/4 | 2 | 143 3/4 | ..... | ..... | 33 3/4 | ..... |
| Denby 27–4 | 3 | 1/8 | 1 1/4 | 1 1/4 | .... | 13 | 1 3/4 | 16 1/4 | 1 1/4 | 38 1/2 | 1 1/2 | F | 8 1/2 | 4 | 1/4 | 2 | 58 | 2 1/2 | 1/4 | 2 | 140 | ..... | ..... | 34 | ..... |
| Denby 210–5 | 3 | 1/8 | 1 1/4 | 1 1/4 | .... | 13 | 1 3/4 | 16 1/4 | 1 1/4 | 38 1/2 | 1 1/2 | F | 8 1/2 | 4 | 1/4 | 2 | 89 | 2 1/4 | 1/4 | 2 | 140 | ..... | ..... | 34 | ..... |
| Dependable Dispatch A-1 1/4 | 4 | 1/4 | 1 | 1/4 | V | 14 | 2 1/4 | 15 | 1 1/4 | 37 1/2 | 2 | F | 53 1/4 | 2 1/4 | 1/4 | 1 | 38 1/4 | 2 1/4 | 1/4 | 1 | 108 | ..... | ..... | 33 1/2 | ..... |
| Dependable C–2 | 4 | 1/4 | 1 | 1/4 | V | 14 | 2 1/4 | 15 | 1 1/4 | 37 1/2 | 2 | F | 53 1/2 | 2 1/2 | 1/4 | 1 | 38 1/2 | 2 1/2 | 1/4 | 1 | 121 | 77 | 215 | 33 | 9 1/2 |
| Dependable D–2 1/2 | 4 | 1/4 | 1 1/4 | 1/4 | V | 10 | 2 1/4 | 11 1/2 | 1 1/4 | 37 1/2 | 2 | F | 53 1/2 | 2 1/2 | 1/4 | 1 | 38 1/2 | 2 1/2 | 1/4 | 1 | 140 | 77 | 215 | 33 | 9 1/2 |
| Dependable E–3 | 4 | 1/4 | 1 1/4 | 1/4 | V | 10 | 2 1/4 | 11 1/2 | 1 1/4 | 37 1/2 | 2 | F | 63 | 2 1/2 | 1/4 | 1 | 49 | 2 1/2 | 1/4 | 1 | 152 | 92 | 248 | 33 | 9 1/2 |
| Dependable G–3 1/2 | 4 | 1/4 | 1 1/4 | 1/4 | V | 13 | 2 | 13 | 1 1/4 | 37 1/2 | 2 | F | 63 | 2 1/2 | 1/4 | 1 | 49 | 2 1/2 | 1/4 | 1 | 170 | ..... | ..... | 33 | ..... |
| Diamond T–O3–1 | 3 | 1/4 | 1 | 1 1/4 | V | 9 | 1 1/4 | 6 | 1 1/4 | 35 | 2 | F | 48 | 2 1/2 | 1/4 | 2 | 33 | 2 1/2 | 1/4 | 2 | 100 | ..... | ..... | 34 | ..... |
| Diamond T–T–1 1/2 | 3 | 1/4 | 1 | 1 1/4 | V | 9 | 1 1/4 | 6 | 1 1/4 | 35 | 2 | F | 11 1/2 | 3 1/4 | 1/4 | 4 | 11 1/2 | 3 1/2 | 1/4 | 4 | Opt | ..... | ..... | 34 | ..... |
| Diamond T–U2–2 1/2 | 3 | 1/8 | 1 1/4 | 1 1/4 | V | 9 | 1 1/4 | 8 | 1 1/4 | 35 | 2 | F | 13 1/4 | 3 1/2 | 1/4 | 4 | 13 1/4 | 3 1/2 | 1/4 | 4 | Opt | ..... | ..... | 34 | ..... |
| Diamond TK–3 1/2 | 3 | 1/4 | 1 1/4 | 1 1/2 | V | 10 | 1 1/2 | 10 | 1 1/2 | 35 | 2 | F | 15 5/8 | 3 3/4 | 1/4 | 4 | 15 5/8 | 3 3/4 | 1/4 | 4 | Opt | ..... | ..... | 37 | ..... |
| Diamond T–EL–5 | 3 | 1/4 | 1 1/4 | 1 1/2 | V | 10 | 1 1/2 | 10 | 1 1/2 | 35 | 2 | F | 18 | 4 | 1/4 | 4 | 17 11/16 | 4 | 1/4 | 4 | Opt | ..... | ..... | 37 | ..... |
| Diamond T–S–5 | 3 | 1/4 | 1 1/2 | 1 3/4 | V | 9 | 2 | 21 | 2 | 40 3/8 | 2 | F | 18 | 4 | 1/4 | 4 | 17 11/16 | 4 | 1/4 | 4 | Opt | ..... | ..... | 37 | ..... |
| Diehl A | 3 | .... | 1 | 1 | .... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | 28 | 2 1/2 | 1/4 | 2 | 27 | 2 | 1/4 | 2 | 90 | 48 | 174 | ..... | 11 |
| Dixon Model D | 4 | 1/8 | 1 | .... | V | 11 | 1 1/2 | 8 | 1 1/2 | 41 | .... | F | 13 | 3 1/2 | 1/4 | 4 | 13 | 3 1/2 | 1/4 | 4 | 126 | 71 | 221 1/2 | 34 1/2 | 9 1/2 |
| Dixon Model C | 4 | 1/8 | 1 1/4 | .... | V | 11 | 1 1/2 | 9 | 1 1/2 | 42 | .... | F | 13 | 3 1/2 | 1/4 | 4 | 13 | 3 1/2 | 1/4 | 4 | Opt | 71 | 221 1/2 | 34 1/2 | 9 1/2 |
| Dixon Model A | 4 | 1/8 | 1 1/4 | .... | V | 12 | 1 1/2 | 10 | 1 1/2 | 42 | .... | .... | ..... | ..... | ..... | ..... | 13 | ..... | 1/4 | 4 | Opt | 71 | 221 1/2 | 36 | 9 1/2 |
| Dodge Brothers–3/4 | 4 | 1/8 | 1 1/8 | 1/4 | V | 9 | 1 1/2 | 7 1/4 | 1 1/16 | 34 1/2 | 1 | F | 19 1/4 | 2 1/4 | 1/4 | 4 | 14 3/8 | 1 3/4 | 1/4 | 4 | 43 11/16 | 35 11/16 | ..... | 38 | 10 1/4 |
| D–Olt | 3 | 1/8 | 1 | 1/4 | H | 18 | 2 | 18 | 2 | 36 | 1 | F | 54 | 3 | 1/4 | 2 | 42 | 3 | 1/4 | 2 | 240 | 68 | 166 | 34 | 11 |
| Dorris K–4–2 | 3 | 1/4 | 1 1/4 | 1 1/4 | V | 2 1/4 | 1 1/2 | 6 1/4 | 1 1/4 | 42 7/8 | 2 | F | 13 1/2 | 3 1/2 | 1/4 | 4 | 13 1/2 | 3 1/2 | 1/4 | 4 | 142 3/4 | 96 1/2 | 233 1/2 | 34 | 9 |
| Dorris K7–3 1/2 | 3 | 1/4 | 1 1/4 | 1 1/4 | V | 2 1/4 | 1 1/2 | 6 1/4 | 1 1/4 | 42 7/8 | 2 | F | 15 3/4 | 3 3/4 | 1/4 | 4 | 15 3/4 | 3 3/4 | 1/4 | 4 | 178 1/2 | 130 1/2 | 270 1/2 | 36 | 9 |
| Dort 103 Series | 3 | 1/8 | 1 | 1/4 | H | 6 | 2 1/4 | 15 1/8 | 2 1/4 | 32 | 1 | F | 35 1/2 | 1 3/4 | 1/4 | 2 | 36 | 1 3/4 | 1/4 | 2 | 50 3/4 | ..... | 141 5/8 | 35 3/4 | 8 3/4 |
| Double Drive D | 4 | 1/4 | 1 1/2 | 1 11/16 | V | 12 | 2 | 19 | 1 1/2 | 34 | 2 | F | 8 5/8 | 4 | 1/4 | 2 | 18 | 4 | 1/4 | 2 | 120 | 84 | 216 | 36 | 9 3/4 |
| Douglas GW–1 1/2 | 3 | .... | 1 1/4 | 1 1/4 | .... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | 45 | 2 1/2 | 1/4 | 2 | 44 | 2 1/4 | 1/4 | 2 | 118 | ..... | ..... | 31 | ..... |
| Douglas G–1 1/2 | 3 | .... | 1 1/4 | 1/4 | .... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | 46 | 2 1/2 | 1/4 | 2 | 44 | 2 1/4 | 1/4 | 2 | 118 | ..... | ..... | 31 | ..... |
| Douglas H–2 | 3 | .... | 1 1/4 | 1/4 | .... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | 55 | 2 1/2 | 1/4 | 2 | 52 | 2 1/4 | 1/4 | 2 | 118 | ..... | ..... | 31 | ..... |
| Douglas HW–2 | 3 | .... | 1 1/4 | 1/4 | .... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | 54 | 2 1/2 | 1/4 | 2 | 42 | 2 1/4 | 1/4 | 2 | 118 | ..... | ..... | 31 | ..... |
| Douglas I–3 | 3 | .... | 1 1/4 | 1/4 | .... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | 58 | 2 1/2 | 1/4 | 2 | 44 | 2 1/4 | 1/4 | 2 | 132 | ..... | ..... | 31 | ..... |
| Drake T–60 | 3 | 1/8 | 1 1/4 | 1 1/2 | V | 9 | 1 1/2 | 8 | 1 1/4 | 32 | 1 1/4 | F | 42 1/4 | 2 1/2 | 1/4 | 1 | 37 | 2 1/2 | 1/4 | 1 | 106 | ..... | ..... | 34 | ..... |
| Duplex E–3 1/2 | 3 | 1/4 | 1 1/4 | 1 | .... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | 9 1/2 | 2 1/2 | 1/4 | 2 | 5 1/2 | 2 1/2 | 1/4 | 2 | 126 | ..... | ..... | 39 3/8 | ..... |
| Duplex A | ..... | ..... | 1 1/4 | 1 1/2 | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | 2 | ..... | 4 | ..... | 2 | ..... | 4 | 121 | ..... | ..... | 34 | ..... |
| Eagle 100–2 | 4 | 1/8 | 1 1/4 | 1 | V | 14 | 2 | 16 | 1 1/4 | 33 3/8 | 1 1/2 | ... | 49 1/2 | 3 | 1/8 | 1 | 46 | 2 | 1/8 | 1 | Opt | ..... | ..... | 36 | ..... |
| Eugol 752–1 | 3 | 1/4 | 1 3/4 | 1/8 | V | 8 | 1 3/4 | 15 1/2 | 1 1/4 | 32 3/4 | 1 1/2 | F | 11 | 2 1/2 | 1/4 | 2 | 11 | 2 1/2 | 1/4 | 2 | 102 | ..... | ..... | 30 | ..... |
| Fageol 1 1/2–2 | 3 | 1/4 | 1 1/8 | 1 1/2 | V | 15 1/2 | 1 1/4 | 11 1/2 | 1 1/4 | 31 | 5/8 | V | 19 1/4 | 1 3/4 | 1/8 | 2 | 19 1/4 | 1 3/4 | 1/8 | 2 | 120 | ..... | ..... | 30 | ..... |
| Fageol 2 1/2–3 | 3 | 1/4 | 1 1/8 | 1 11/16 | V | 10 | 1 1/4 | 14 3/4 | 1 1/4 | 34 3/4 | 1 1/2 | F | 13 1/4 | 3 1/2 | 1/4 | 2 | 13 1/4 | 3 1/4 | 1/4 | 2 | 141 | ..... | ..... | 34 | ..... |
| Fageol 3 1/2–4 | 3 | 1/4 | 1 5/8 | 2 | V | 9 | 1 1/2 | 17 1/2 | 1 1/2 | 40 1/2 | 1 1/2 | F | 15 1/2 | 3 3/4 | 1/8 | 2 | 15 1/2 | 3 3/4 | 1/8 | 2 | 159 1/2 | ..... | ..... | 37 3/4 | ..... |
| Fageol 5–6 | 3 | 1/4 | 1 5/8 | 2 | V | 9 | 1 1/2 | 17 1/2 | 1 1/2 | 40 1/2 | 1 1/2 | F | 18 | 4 | 1/8 | 2 | 18 | 4 | 1/8 | 2 | 161 1/4 | ..... | ..... | 37 3/4 | ..... |
| Federal R–2–1 | 4 | 1/8 | 1 | .... | V | ..... | 1 1/2 | ..... | 1 1/2 | ..... | ..... | F | ..... | ..... | ..... | 4 | ..... | ..... | ..... | 4 | 110 | ..... | ..... | ..... | ..... |
| Federal S–21–1 1/2 | 4 | 1/8 | 1 | .... | V | ..... | 1 1/2 | ..... | 1 1/2 | ..... | ..... | F | ..... | ..... | ..... | 4 | ..... | ..... | ..... | 4 | 118 | ..... | ..... | ..... | ..... |
| Federal S–22–1 1/2 | 4 | 1/8 | 1 | .... | V | ..... | 1 1/2 | ..... | 1 1/2 | ..... | ..... | F | ..... | ..... | ..... | 4 | ..... | ..... | ..... | 4 | 118 | ..... | ..... | ..... | ..... |
| Federal U–2–2 1/2 | 3 | 1/8 | 1 1/4 | .... | V | ..... | 1 1/4 | ..... | 1 1/2 | ..... | ..... | F | ..... | ..... | ..... | 4 | ..... | ..... | ..... | 4 | 134 | ..... | ..... | ..... | ..... |
| Federal WL–4 | 3 | 1/8 | 1 1/4 | .... | V | ..... | 1 1/2 | ..... | 1 1/2 | ..... | ..... | F | ..... | ..... | ..... | 4 | ..... | ..... | ..... | 4 | 154 | ..... | ..... | ..... | ..... |
| Federal X2–5 | 4 | 1/4 | 1 1/2 | .... | V | ..... | 1 3/4 | ..... | 1 1/2 | ..... | ..... | F | ..... | ..... | ..... | 4 | ..... | ..... | ..... | 4 | 154 | ..... | ..... | ..... | ..... |
| Federal Light Duty | 4 | 1/8 | 1 1/4 | .... | V | ..... | 1 1/4 | ..... | 1 1/2 | ..... | ..... | F | ..... | ..... | ..... | 4 | ..... | ..... | ..... | 4 | 86 | ..... | ..... | ..... | ..... |
| Federal Heavy Duty | 4 | 1/8 | 1 1/4 | .... | V | ..... | 1 1/4 | ..... | 1 1/2 | ..... | ..... | F | ..... | ..... | ..... | 4 | ..... | ..... | ..... | 4 | 99 | ..... | ..... | ..... | ..... |
| Ford T–1 | 3 | 1/4 | 1.06 | 1 1/16 | H | 4 | 2 | ..... | 1 3/4 | 26 1/16 | 1 1/8 | F | 23 3/8 | 1 1/8 | 1/8 | 1 | 12 | 1 5/8 | 1/8 | 2 | 60 | ..... | 123 | 23 | 9 3/4 |
| Front Drive C–1 1/2 | 4 | 1/8 | 1 | 1 1/2 | V | 13 3/4 | 1 3/4 | 17 | 1 5/8 | 33 | 2 | F | 13 | 4 | 1/4 | 2 | 15 | 4 | 1/4 | 2 | 132 | 96 | 216 | 36 | 10 1/2 |
| F. W. D. B–3 | 3 | 1/4 | 1 11/16 | 1/4 | .... | 4 | 2 | 5 | 1 1/2 | 40 | 1 1/8 | F | 27 | 3 1/2 | 1/4 | 1 | 43 | 2 3/4 | 1 1/4 | 1 | 148 | 97 | 200 | 36 | 9 3/4 |
| Garford 15–1 | 4 | 1/8 | 1 | .... | V | ..... | ..... | ..... | ..... | 34 | 1 1/2 | F | 11 | 2 1/2 | 1/4 | 4 | 11 | 2 1/2 | 1/4 | 4 | 96 | 61 | 187 | 34 | 11 |
| Garford 25B–1 1/2 | 3 | 1/8 | 1 1/4 | .... | H | ..... | ..... | ..... | ..... | 37 1/16 | 1 | F | 11 3/4 | 3 1/4 | 1/4 | 4 | 11 3/4 | 3 1/4 | 1/4 | 4 | 108 | 70 | 200 | 34 | 9 1/2 |
| Garford 70H–2 1/2 | 4 | 1/4 | 1 1/4 | .... | V | ..... | ..... | ..... | ..... | 34 1/16 | 2 | F | 13 1/16 | 3 1/2 | 1/4 | 4 | 13 1/16 | 3 1/2 | 1/4 | 4 | 121 | 74 | 214 | 34 | 9 1/2 |
| Garford 77D–4 | 4 | 1/4 | 1 1/4 | .... | V | ..... | ..... | ..... | ..... | 39 | 2 | F | 15 5/8 | 3 3/4 | 1/4 | 4 | 15 5/8 | 3 3/4 | 1/4 | 4 | 144 | 88 1/2 | 246 | 36 | 9 1/2 |
| Garford 68D–5 | 4 | 1/4 | 1 1/2 | .... | V | ..... | ..... | ..... | ..... | 41 1/16 | 2 | F | 17 3/4 | 4 | 1/4 | 4 | 17 3/4 | 4 | 1/4 | 4 | 150 | 88 1/2 | 251 | 36 | 10 |
| Garford 150–A–7 1/2 | 4 | 1/4 | 1 1/2 | .... | V | ..... | ..... | ..... | ..... | 41 1/16 | 2 | F | 10 1/2 | 4 | 3/8 | 2 | 21 5/8 | 4 | 1/4 | 4 | 150 | 88 1/2 | 251 | 36 | 11 |

# Replacement Table—Continued

| NAME, MODEL AND TONNAGE | ENGINE | | | | | | | | | | | | BRAKE LINING | | | | | | | | FRAME | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Piston Rings | | Carburetor | | | Upper Hose | | Lower Hose | | Fan Belt | | | Service | | | | Emergency | | | | Length | | | Width | |
| | No. per Cyl. | Width | Outlet Diameter | Inlet Diameter | Vertical or Horizontal | Length | Width | Length | Width | Length | Width | Type | Length | Width | Thickness | No. of Pieces | Length | Width | Thickness | No. of Pieces | Back of Driver's Seat | Driver's Seat to Center of Rear Axle | Over All | Over All | Clearance at Lowest Point of Chassis |
| Gary F-1-1½ | 4 | ¼ | 1¼ | ⅜ | | | | | | | | | 11 | 3 | ¼ | 2 | 11 | 3 | ¼ | 4 | 97⅜ | | | 34 | |
| Gary I-2 | 4 | ¼ | 1¼ | ⅜ | | | | | | | | | 12 | 3¼ | ¼ | 4 | 12 | 3¼ | ¼ | 4 | 120 | | | 34 | |
| Gary J-2½ | 4 | ¼ | 1¼ | ⅜ | | | | | | | | | 13½ | 3½ | ¼ | 4 | 13½ | 3½ | ¼ | 4 | 120 | | | 34 | |
| Gary K-3½ | 4 | ¼ | 1½ | ⅜ | | | | | | | | | 15 | 3¾ | ¼ | 4 | 15 | 3¾ | ¼ | 4 | 148 | | | 36¾ | |
| Gary M-5 | 4 | ¼ | 1½ | ⅜ | | | | | | | | | 18¼ | 4 | ¼ | 4 | 18¼ | 4 | ¼ | 4 | 168 | | | 39 | |
| Giant 16-2½ | 3 | ⅛ | 1¼ | | | 7½ | 1¼ | 11½ | 1¼ | 36½ | ¾ | F | 13⅛ | 3½ | ¼ | 8 | 13⅛ | 3½ | ¼ | 8 | 140½ | | | 33 | |
| Giant 17-3½ | 3 | ⅛ | 1½ | | | 9½ | 1¾ | 12 | 1¼ | 36 | ¾ | V | 15⅝ | 3¾ | ¼ | 8 | 15⅝ | 3¾ | ¼ | 8 | 183½ | | | 36 | |
| G.M.C. K-16 | 4 | ⅛ | 1¼ | 1⅝ | V | 8¾ | 1½ | 8 ⅛ | 1½ | 35⅞ | ⅞ | V | 49⅝ | 2⅜ | ⅛ | 2 | 47 | 2⅛ | ⅛ | 2 | 89 | 57 | 183½ | 34 | 8¾ |
| G.M.C. K-20 | 4 | ¼ | 1¼ | 1⅝ | V | 10 | 1¾ | 9½ | 1¾ | 37⅞ | ⅞ | V | 49⅝ | 2⅜ | ⅛ | 2 | 47 | 2⅛ | ⅛ | 2 | 191 | | | 33 | |
| G.M.C. K-71 | 4 | ¼ | 1¼ | 1⅝ | V | 11¾ | 1¾ | 9½ | 1¾ | 37⅞ | ⅞ | V | 15⅛ | 3¾ | ¼ | 4 | 15⅛ | 3¾ | ¼ | 4 | Opt | 87½ | 242½ | 38 | 10¼ |
| G.M.C. K-101 | 4 | ¼ | 1¼ | 1⅝ | V | 11¾ | 1¾ | 9½ | 1¾ | 37⅞ | ⅞ | V | 17¾ | 4 | ¼ | 4 | 17¾ | 4 | ¼ | 4 | Opt | 87½ | 242½ | 38 | 9¾ |
| G.M.C. K-41 | 4 | ¼ | 1¼ | 1⅝ | V | 10 | 1¾ | 9½ | 1¾ | 37⅞ | ⅞ | V | 13 | 3⅛ | ¼ | 4 | 13 | 3⅛ | ¼ | 4 | Opt | 71 | 221½ | 33 | 9½ |
| Graham Bros. | 3 | ⅛ | 1⅛ | ¼ | V | 9 | 1½ | 7¼ | 1¼ | 34½ | 1 | F | 50 | 2½ | ⅛ | 2 | 20 | 1½ | ⅛ | 4 | 98 | 58 | 194¼ | 33½ | 10¼ |
| Gramm-Pioneer 10 Speed-1 | 3 | ⅛ | 1 | 1½ | V | 12 | 2¼ | 14½ | 2¼ | 29 | 1 | F | 48 | 2 | ⅛ | 2 | 26 | 2 | ⅛ | 1 | 97 | 54 | 180 | 30⅛ | |
| Gramm-Pioneer 15-1½-2 | 3 | ⅛ | 1 | 1½ | V | 10¼ | 2 | 6 | 2 | 39 | 1¼ | F | 48½ | 2 | ⅛ | 2 | 45⅞ | 1½ | ⅛ | 2 | 120 | 74 | 205⅜ | 32 | |
| Gramm-Pioneer 65-1½-2 | 3 | ⅛ | 1 | 1½ | V | 10¼ | 2 | 6 | 2 | 39 | 1¼ | F | 19¾ | 1¾ | ¼ | 4 | 19¾ | 1¾ | ⅛ | 4 | 120 | 74 | 205⅜ | 32 | |
| Gramm-Pioneer 125 | 3 | ⅛ | 1¼ | 1½ | V | 4½ | 1½ | 12 | 1½ | 32 | 2 | F | 8 | 5 | ¼ | 2 | 45 | 2 | ⅛ | 4 | 126 | 77¾ | 214 | 32 | |
| Gramm-Pioneer 30-3 | 3 | ¼ | 1¼ | 1½ | V | 11 | 1½ | 9 | 1½ | 33¾ | 2 | F | 22¾ | 2¼ | ¼ | 4 | 22¾ | 2¼ | ¼ | 4 | 129¾ | 81¾ | 226¾ | 36 | |
| Gramm-Pioneer 75P-3½ | 3 | ¼ | 1¼ | 1½ | V | 11 | 1½ | 9 | 1½ | 33¾ | 2 | F | 22¾ | 2¼ | ¼ | 4 | 22¾ | 2¼ | ¼ | 4 | 129¾ | | | 36 | |
| Gramm-Pioneer 40-4 | 3 | ¼ | 1¼ | 1½ | V | 11 | 1½ | 9 | 1½ | 33¾ | 2 | F | 28¾ | 2¾ | ¼ | 4 | 28¾ | 2¾ | ¼ | 4 | 144 | 87¾ | 240¾ | 36 | |
| Gramm-Pioneer 50-5-6 | 3 | ¼ | 1½ | 1¾ | V | 23¼ | 2 | 13¾ | 1⅞ | 40¾ | 2 | F | 32⅛ | 2¾ | ¼ | 4 | 32⅛ | 2¾ | ¼ | 4 | 132 | 97 | 263½ | 36 | |
| G. W. W. | 3 | ¼ | 1¼ | 1¾ | V | 12 | 1¾ | 11 | 1¾ | 37 | 2 | F | 49 | 2½ | ¼ | 2 | 47 | 1½ | ⅜ | 2 | 89 | 72 | 192 | 32 | 11½ |
| Hall 2-Worm-2½ | 3 | ⅛ | .... | .... | .... | 8 | 1¼ | 12½ | 1¼ | 32 | 1¼ | F | 11½ | 3 | ¼ | 4 | 11½ | 3 | ¼ | 4 | 144 | | | 38 | |
| Hall 3½-Worm | 3 | ⅛ | .... | .... | .... | 12½ | 1¾ | 15½ | 1¼ | 38⅛ | 1½ | F | 15 | 3¾ | ¼ | 4 | 15 | 3¾ | ¼ | 4 | 180 | | | 39 | |
| Hall 5-Worm | 3 | ⅛ | .... | .... | .... | 12½ | 1¾ | 15½ | 1¼ | 38⅛ | 1½ | F | 18 | 4 | ¼ | 4 | 18 | 4 | ¼ | 4 | 144 | | | 39 | |
| Hall 7-Chain | 3 | ⅛ | .... | .... | .... | 12½ | 1¾ | 15½ | 1¼ | 38⅛ | 1½ | F | 18 | 4 | ¼ | 4 | 18 | 4 | ¼ | 4 | 144 | | | 39 | |
| Harvey WOA-2 | 4 | ¼ | 1¼ | 2 | V | 11 | 2 | 14 | 1¼ | 35⅝ | 2 | F | 45 | 2 | ¼ | 2 | 45 | 2 | ¼ | 2 | 139 | 87 | 242¼ | 32 | 10 |
| Harvey WFB-2½ | 4 | ¼ | 1¼ | 2 | V | 11 | 2 | 14 | 1¼ | 35⅝ | 2 | F | 50 | 2¼ | ¼ | 2 | 50 | 2¼ | ¼ | 2 | 139 | 87 | 242¼ | 32 | 10 |
| Harvey WHB-3½ | 4 | ¼ | 1½ | 2 | V | 12 | 2 | 14 | 1¼ | 35⅝ | 2 | F | 56½ | 2½ | ¼ | 2 | 56½ | 2½ | ¼ | 2 | 153¾ | 85¾ | 260⅞ | 35 | 9 |
| Harvey WFT-6 | 4 | ¼ | 1¼ | 2 | V | 11 | 2 | 14 | 1¼ | 35⅝ | 2 | F | 50 | 2¼ | ¼ | 2 | 50 | 2¼ | ¼ | 2 | 88 | 52 | 189⅛ | 32 | 10 |
| Harvey WHT-10 | 4 | ¼ | 1½ | 2 | V | 12 | 2 | 14 | 1¼ | 35⅝ | 2 | F | 56½ | 2½ | ¼ | 2 | 56½ | 2½ | ¼ | 2 | 93 | 52½ | 191⅞ | 35 | 9 |
| Hawkeye O | 4 | ⅛ | .... | 1 | V | 12 | 2 | 9 | 1¼ | ..... | 1½ | F | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... |
| Hawkeye K | 4 | ⅛ | .... | 1 | V | 12 | 2 | 9 | 1¼ | ..... | 2 | F | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... |
| Hawkeye M | 4 | ¼ | .... | 1¼ | V | 12 | 2¼ | 9 | 1½ | ..... | 2 | F | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... |
| Hawkeye N | 4 | ¼ | .... | 1¼ | V | 14 | 2½ | 12 | 1½ | ..... | 2½ | F | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... |
| Hendrickson N-2½ | 3 | ¼ | 1¼ | ⅛ | .... | .... | .... | .... | .... | .... | .... | .... | 12 | 3½ | ⅛ | 4 | 12 | 3½ | ⅛ | 4 | Opt | .... | .... | 32½ | .... |
| Hendrickson M-3½ | 3 | ¼ | 1¼ | ⅛ | .... | .... | .... | .... | .... | .... | .... | .... | 16 | 3¾ | ⅛ | 4 | 16 | 3¾ | ⅛ | 4 | Opt | .... | .... | 36 | .... |
| Hendrickson K-5 | 3 | ¼ | 1½ | ⅛ | .... | .... | .... | .... | .... | .... | .... | .... | 18 | 4 | ⅛ | 4 | 18 | 4 | ⅛ | 4 | Opt | .... | .... | 38 | .... |
| Hurlburt A1½-2 | 3 | .... | 1¼ | 1 | .... | .... | .... | .... | .... | .... | .... | .... | 22 | 2 | ¼ | 2 | 22 | 2 | ¼ | 2 | 132 | .... | .... | 35½ | .... |
| Hurlburt B2½ | 3 | ⅛ | 1¼ | 1 | .... | .... | .... | .... | .... | .... | .... | .... | 24 | 2½ | ¼ | 2 | 23 | 2½ | ¼ | 2 | 154 | .... | .... | 34 | .... |
| Hurlburt C3½-4 | 3 | ¼ | 1½ | 1¼ | .... | .... | .... | .... | .... | .... | .... | .... | 26 | 3 | ¼ | 2 | 25 | 3 | ¼ | 2 | 144½ | .... | .... | 34 | .... |
| Hurlburt D5-5½ | 3 | ¼ | 1½ | 1¼ | .... | .... | .... | .... | .... | .... | .... | .... | 28 | 3 | ¼ | 2 | 27 | 3 | ¼ | 2 | 144½ | .... | .... | 34 | .... |
| Indiana 12-1½ | 3 | ¼ | 1 | .... | .... | 17 | 1¼ | 14 | 1¼ | 38½ | 1 | F | 17½ | 2 | ⅛ | 4 | 17½ | 2 | ⅛ | 4 | 108 | 98⅛ | 189½ | 32 | 10½ |
| Indiana 20-2 | 3 | ¼ | 1¼ | .... | .... | 6 | 1¼ | 13 | 1¼ | 26⅝ | 1½ | F | 44 | 2 | ¼ | 2 | 44 | 2 | ¼ | 2 | 126 | 126 | 226¾ | 33 | 10¼ |
| Indiana 25-2½ | 3 | ¼ | 1¼ | .... | .... | 6 | 1¼ | 13 | 1¼ | 26⅝ | 1½ | F | 51 | 2¼ | ¼ | 2 | 51 | 2¼ | ¼ | 2 | 138 | 138 | 238¾ | 33 | 9¾ |
| Indiana 35-3½ | 3 | ¼ | 1¼ | .... | .... | 6 | 1¼ | 13 | 1¼ | 26⅝ | 1½ | F | 56 | 2½ | ¼ | 2 | 56 | 2½ | ¼ | 2 | 144 | 144 | 244⅛ | 34½ | 8¾ |
| Indiana 51-5 | 3 | ¼ | 1½ | .... | .... | 10 | 1½ | 17½ | 1½ | 40½ | 1¾ | F | 68 | 3 | ¼ | 2 | 68 | 3 | ¼ | 2 | 156 | 156¼ | 260 | 37½ | 10½ |
| Inter'l S—2000 lbs.-Sp. Tr. | 3 | ¼ | 1¼ | 1¼ | V | 9¾ | 2¼ | 17¾ | 2¼ | 30¼ | 1 | F | 38 | 2 | ⅛ | 2 | 36 | 2 | ⅛ | 2 | 88 | .... | .... | 34 | .... |
| International 21-2000 lbs. | 3 | ¼ | 1¼ | 1¾ | V | 6 | 1½ | 3½ | 1⅜ | 38⅛ | 1⅛ | F | 43¾ | 2¼ | ⅛ | 2 | 43¾ | 2¼ | ⅛ | 2 | 76 | .... | .... | 34 | .... |
| International 31-3000 lbs. | 3 | ¼ | 1¼ | 1¾ | V | 6 | 1½ | 3½ | 1⅜ | 38⅛ | 1⅛ | F | 43¾ | 2¼ | ⅛ | 2 | 43¾ | 2¼ | ⅛ | 2 | 106½ | .... | .... | 34 | .... |
| International 41-4000 lbs. | 3 | ¼ | 1¼ | 1¾ | V | 6 | 1½ | 3½ | 1⅜ | 38⅛ | 1⅛ | F | 50⅝ | 2¼ | ⅛ | 2 | 50⅝ | 2¼ | ⅛ | 2 | 111⅛ | .... | .... | 32¼ | .... |
| International 52-Bus | 4 | ¼ | 1¼ | 1¾ | V | 9 | 2¼ | 14½ | 2 | ..... | .... | .... | 10¾ | 2¼ | ¼ | 4 | 50⅝ | 3 | ⅛ | 2 | 216 | .... | .... | 34 | .... |
| International 61-6000 lbs. | 4 | ¼ | 1¼ | 1¾ | V | 9 | 2¼ | 14½ | 2 | ..... | .... | .... | 50⅝ | 2¼ | ⅛ | 2 | 50⅝ | 2¼ | ⅛ | 2 | 118⅜ | .... | .... | 34 | .... |
| International 62 Tractor Tr. | 4 | ¼ | 1¼ | 1¾ | V | 9 | 2¼ | 14½ | 2 | ..... | .... | .... | 50⅝ | 2¼ | ⅛ | 2 | 50⅝ | 2¼ | ⅛ | 2 | ..... | .... | .... | 34 | .... |
| International 101-10,000 | 4 | ¼ | 1¼ | 1¾ | V | 9 | 2¼ | 14½ | 2 | ..... | .... | .... | 73⅛ | 2½ | ⅛ | 2 | 73⅛ | 2½ | ⅛ | 2 | 147⅜ | .... | .... | 34 | .... |
| International 102 Tractor Tr | 4 | ¼ | 1¼ | 1¾ | V | 9 | 2¼ | 14½ | 2 | ..... | .... | .... | 73⅛ | 2½ | ⅛ | 2 | 73⅛ | 2½ | ⅛ | 2 | ..... | .... | .... | 34 | .... |
| Jackson B-3½ | 3 | ⅛ | 1¼ | 1½ | V | 11 | .... | .... | .... | 32½ | 1¼ | F | 58½ | 3½ | ¼ | 2 | ..... | .... | .... | .... | 150 | .... | .... | 36 | .... |
| Kalamazoo G-1 | 3 | ¼ | 2⅛ | 1⅛ | .... | 15½ | 1½ | 8 | 1½ | 40 | 1½ | F | 50 | 2½ | ⅛ | 1 | 34 | 2½ | ⅛ | 1 | 120 | 77⅛ | 212 | 32½ | 9 |
| Kalamazoo LG | 3 | ¼ | 2⅛ | 1⅛ | .... | 6 | 1½ | 16 | 1¼ | 39 | 1½ | F | 50 | 2½ | ⅛ | 1 | 34 | 2½ | ⅛ | 1 | 120 | 77⅛ | 212 | 32½ | 10 |
| Kalamazoo NH | 3 | ¼ | 2⅛ | 1⅛ | .... | 20 | 1¾ | 19½ | 1½ | 42 | 2 | F | 52 | 2¼ | ¼ | 1 | 52 | 2¼ | ¼ | 1 | 144 | 88⅜ | 241 | 33 | 10 |
| Kalamazoo HD | 3 | ¼ | 2⅛ | 1⅛ | .... | 20 | 1¾ | 19½ | 1½ | 42 | 2 | F | 52 | 2¼ | ¼ | 1 | 52 | 2¼ | ¼ | 1 | 120 | 88⅜ | 241 | 33 | 10 |
| Kalamazoo SK | 3 | ¼ | 2⅛ | 1⅛ | .... | 20 | 1¾ | 19½ | 1½ | 42 | 2 | F | 57 | 2½ | ¼ | 1 | 57 | 2½ | ¼ | 1 | 152 | 88⅜ | 247 | 36 | 9 |
| Kalamazoo OK | 3 | ¼ | 2⅛ | 1⅛ | .... | 20 | 1¾ | 19½ | 1½ | 42 | 2 | F | 68 | 3 | ¼ | 1 | 68 | 3 | ¼ | 2 | 152 | 88⅜ | 247 | 36 | 10½ |
| Kearns H-1 | 3 | ⅛ | 1 | ⅛ | H | 16 | 2 | 16 | 2 | 33 | 1 | F | 42 | 2 | ⅛ | 1 | 21 | 2 | ⅛ | 2 | 90 | .... | .... | 34 | .... |
| Kearns N-1½ | 3 | ⅛ | 1 | ⅛ | H | 18 | 2 | 18 | 2 | 33 | 1 | F | 45 | 2½ | ⅛ | 1 | 22 | 2¼ | ⅛ | 2 | 120 | .... | .... | 34 | .... |
| Kelly-Springfield K34-1½ | 4 | ⅛ | 1 | ⅛ | V | 7 | 1½ | 13 | 1½ | 54½ | 1 | V | 17⅜ | 1⅞ | ⅛ | 4 | 17⅜ | 1⅞ | ⅛ | 4 | 138 | .... | .... | 34 | .... |
| Kelly-Springfield K35-2½ | 4 | ⅛ | 1 | ⅛ | V | 7 | 1½ | 13 | 1½ | 55½ | 1 | V | 16¾ | 1⅞ | ⅛ | 4 | 16¾ | 1⅞ | ⅛ | 4 | 138 | .... | .... | 34 | .... |
| Kelly-Springfield K38-2½ | 4 | ⅛ | 1 | ⅛ | V | 7 | 1½ | 13 | 1½ | 55½ | 1 | V | 17⅜ | 1⅞ | ⅛ | 4 | 17⅜ | 1⅞ | ⅛ | 4 | 138 | .... | .... | 34 | .... |
| Kelly-Springfield K40-3½ | 4 | ¼ | 1¼ | ⅛ | V | 5⅛ | 1⅝ | 24 | 1½ | 63⅜ | 1 | V | 21 | 2⅞ | ¼ | 4 | 21 | 2⅞ | ¼ | 4 | 145 | .... | .... | 38 | .... |
| Kelly-Springf'd K41-3½-5 | 4 | ¼ | 1¼ | ⅛ | V | 5⅛ | 1⅝ | 24 | 1½ | 60⅝ | 1 | V | 3⅛ | 4½ | ¼ | 12 | 58 | 2½ | ¼ | 2 | 144 | .... | .... | 36 | .... |
| Kelly-Springfield K42-3½ | 4 | ¼ | 1¼ | ⅛ | V | 5⅛ | 1⅝ | 24 | 1½ | 60⅝ | 1 | V | 27½ | 2¾ | ¼ | 4 | 27½ | 2¾ | ¼ | 4 | 144 | .... | .... | 36 | .... |
| Kelly-Springfield K50-5 | 4 | ¼ | 1¼ | ⅛ | V | 5⅛ | 1⅝ | 24 | 1½ | 63⅜ | 1 | V | 21 | 2⅞ | ⅛ | 4 | 21 | 2⅞ | ⅛ | 4 | 145 | .... | .... | 38 | .... |
| Kelly-Springfield K60-6 | 4 | ¼ | 1¼ | ⅛ | V | 5⅛ | 1⅝ | 24 | 1½ | 63⅜ | 1 | V | 21 | 2⅞ | ⅛ | 4 | 21 | 2⅞ | ⅛ | 4 | 145 | .... | .... | 38 | .... |
| Kelly-Sprinf'd K61-5 to 7 | 4 | ¼ | 1¼ | ⅛ | V | 5⅛ | 1⅝ | 24 | 1½ | 60⅝ | 1 | V | 3⅛ | 4½ | ¼ | 12 | 58 | 2½ | ¼ | 2 | 142 | .... | .... | 36 | .... |
| Kenworth KS-2½ | 4 | ¼ | 1¼ | 1¼ | H | 12 | 2 | 14 | 1¼ | 36 | 2 | ... | 20 | 2¼ | ¼ | 4 | 20 | 2¼ | ¼ | 4 | 133 | .... | .... | 34 | .... |
| Kenworth M-1½ | 4 | ¼ | 1¼ | 1¼ | H | 12 | 2 | 14 | 1¼ | 36 | 2 | ... | 46 | 2 | ¼ | 2 | 46 | 2 | ¼ | 2 | 114 | .... | .... | 32 | .... |
| Kenworth L-3 | 4 | ¼ | 1¼ | 1¼ | H | 13½ | 2 | 16 | 1¼ | 36 | 2 | ... | 56 | 2½ | ¼ | 2 | 56 | 2½ | ¼ | 2 | 144 | .... | .... | 36½ | .... |
| Keystone 40-2 | 3 | ¼ | 1 | ⅛ | V | 8 | 2½ | 8 | 2½ | 38 | 1 | F | 50½ | 3 | ⅛ | 1 | 46¾ | 2 | ⅛ | 1 | 124 | 80 | 214 | 33 | 12 |
| Kissel 1 Ton | 3 | ⅛ | .... | 1¼ | .... | 12¼ | 1¾ | 10 | 1½ | 46¾ | 2 | F | 11 | 3 | ¼ | 4 | 11 | 3 | ¼ | 4 | 102 | .... | .... | 34 | .... |
| Kissel-Utility 1½ | 3 | ⅛ | .... | 1¼ | .... | 12¼ | 1¾ | 10 | 1½ | 46¾ | 2 | F | 19 | 2 | ⅛ | 4 | 19 | 2 | ⅛ | 4 | 120 | .... | .... | 44 | .... |
| Kissel-Freighter 2 | 3 | ⅛ | .... | 1¼ | .... | 12¼ | 1¾ | 10 | 1½ | 49 | 2 | F | 14 | 3½ | ¼ | 4 | 14 | 3½ | ¼ | 4 | 144 | .... | .... | 34 | .... |
| Kissel-Heavy-Duty-4 | 3 | ⅛ | .... | 1¼ | .... | 13¾ | 1¾ | 10 | 1½ | 52¼ | 2 | F | 56 | 2½ | ⅛ | 2 | 56 | 2½ | ⅛ | 2 | 156 | .... | .... | 36 | .... |
| Kleiber 1 | 3 | ⅛ | 1¼ | 1¾ | .... | 13 | 1½ | 16 | 1¼ | 36 | ¾ | ... | 12 | 3¼ | ¼ | 4 | 12 | 3¼ | ¼ | 4 | 120 | .... | .... | 34 | .... |
| Kleiber 1½ | 3 | ⅛ | 1¼ | 1¾ | .... | 13 | 1½ | 16 | 1¼ | 38 | 1¼ | ... | 45 | 3¼ | ¼ | 2 | 12 | 3¼ | ¼ | 2 | 132 | .... | .... | 34 | .... |
| Kleiber 2 | 3 | ⅛ | 1¼ | 1¾ | .... | 13 | 1½ | 16 | 1¼ | 40 | 1¼ | ... | 13½ | 3½ | ¼ | 4 | 13½ | 3½ | ¼ | 4 | 144 | .... | .... | 34 | .... |
| Kleiber 2½ | 3 | ⅛ | 1¼ | 1¾ | .... | 13 | 1¾ | 16 | 1¼ | 40 | 1¼ | ... | 14 | 3¼ | ¼ | 2 | 13½ | 3½ | ¼ | 2 | 150 | .... | .... | 34 | .... |
| Kleiber 3½ | 3 | ⅛ | 1¼ | 1¾ | .... | 13 | 1¾ | 16 | 1¼ | 40 | 1¼ | ... | 16 | 3¾ | ¼ | 4 | 16 | 3¾ | ¼ | 4 | 156 | .... | .... | 38 | .... |
| Kleiber 5 | 4 | ¼ | 1½ | 1¾ | .... | 13 | 1¾ | 16 | 1¼ | 43 | 1¼ | ... | 18 | 4 | ¼ | 4 | 18 | 4 | ¼ | 4 | 168 | .... | .... | 38 | .... |
| Lange F | 4 | ¼ | 1⅛ | 1⅝ | V | 6 | 1½ | 15½ | 1½ | 45 | 1½ | F | 15¾ | 3¾ | ¼ | 4 | 15¾ | 3¾ | ¼ | 4 | 135 | 84 | 212½ | 37 | 14 |
| Lange E-2½ | 3 | ¼ | 1 | 1⅝ | V | 9 | 1½ | 15½ | 1½ | 42 | 1½ | F | 18 | 3½ | ¼ | 4 | 18 | 3½ | ¼ | 4 | 138 | 118⅛ | 207⅜ | 33 | 10 |
| Larrabee X2-1-1¼ Ton | 3 | ⅛ | 1¼ | 1¾ | V | 6 | 1¼ | 14 | 1¼ | 34 | 1¼ | F | 48 | 2 | ⅛ | 2 | 48 | 2 | ⅛ | 2 | 108 | 59 | 205 | 34 | 11 |
| Larrabee J4-1½-2¼ Ton | 4 | ⅛ | 1 | 1½ | V | 6½ | 1¼ | 10 | 1½ | 41 | 1¼ | F | 24 | 2 | ¼ | 4 | 24 | 2 | ¼ | 4 | 108 | 67½ | 199 | 34 | 10½ |

# Replacement Table—Continued

| NAME, MODEL AND TONNAGE | ENGINE | | | | | | | | | | | | BRAKE LINING | | | | | | | | FRAME | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Piston Rings | | Carburetor | | | Upper Hose | | Lower Hose | | Fan Belt | | | Service | | | | Emergency | | | | Length | | | Width | |
| | No. per Cyl. | Width | Outlet Diameter | Inlet Diameter | Vertical or Horizontal | Length | Width | Length | Width | Length | Width | Type | Length | Width | Thickness | No. of Pieces | Length | Width | Thickness | No. of Pieces | Back of Driver's Seat | Driver's Seat to Center of Rear Axle | Over All | Over All | Clearance at Lowest Point of Chassis |
| Larrabee K4–2½–3½ Ton. | 4 | ¼ | 1¼ | 1¾ | V | 6 | 1½ | 11 | 1½ | 48 | 1½ | F | 27 | 2¼ | ¼ | 4 | 27 | 2¼ | ¼ | 4 | Opt | 77 | 219 | 34 | 9¾ |
| Larrabee L4–3½–4½ Ton.. | 4 | ¼ | 1¼ | 1¾ | V | 6 | 1½ | 11 | 1½ | 48 | 1½ | F | 60 | 2½ | ¼ | 2 | 60 | 2½ | ¼ | 2 | Opt | 81 | 224 | 36 | 9 |
| Larrabee W–5–7 | 4 | ¼ | 1½ | 2¼ | V | 8½ | 2 | 17½ | 2 | 44½ | 2 | F | 72 | 3 | ¼ | 2 | 72 | 3 | ½ | 2 | 152 | ..... | ..... | 36 | ..... |
| Luedinghaus K2 | 3 | ¼ | 1¼ | 1 | .... | 9 | 1¼ | 5 | 1¼ | ..... | 1½ | F | 53.4 | 2½ | ¼ | 2 | 38½ | 2½ | ¼ | 2 | 120 | ..... | ..... | 34 | ..... |
| Luedinghaus K2–LS | 3 | ¼ | 1¼ | 1 | .... | 9 | 1¼ | 5 | 1¼ | ..... | 1½ | F | 53.4 | 2½ | ¼ | 2 | 38½ | 2½ | ¼ | 2 | 145½ | ..... | ..... | 34 | ..... |
| Maccar L2 | 4 | ¼ | 1¼ | 1⅝ | V | 11¼ | 1½ | 17 | 1½ | 41½ | 1½ | F | 11⅝ | 3¼ | ¼ | 4 | 11⅝ | 3¼ | ¼ | 4 | 127¾ | 76¼ | 221½ | 34 | 10⅝ |
| Maccar HA | 4 | ¼ | 1¼ | 1⅝ | V | 11¼ | 1½ | 17 | 1½ | 41½ | 1½ | F | 13 | 3½ | ¼ | 4 | 13 | 3½ | ¼ | 4 | 141¾ | 81¾ | 242 | 34 | 10 |
| Maccar H 2 | 4 | ¼ | 1¼ | 1⅝ | V | 9½ | 1½ | 15½ | 1½ | 41½ | 1½ | F | 13 | 3½ | ¼ | 4 | 13 | 3½ | ¼ | 4 | 139¾ | 79¾ | 242 | 34 | 10 |
| Maccar M–3 | 4 | ¼ | 1¼ | 1⅝ | V | 11¼ | 1½ | 15½ | 1½ | 41½ | 1½ | F | 14¾ | 3¾ | ¼ | 4 | 14¾ | 3¾ | ¼ | 4 | 153¾ | 91¾ | 256 | 34 | 8¾ |
| Maccar G | 4 | ¼ | 1½ | 1⅞ | V | 10½ | 2 | 20½ | 2 | 40¾ | 2 | F | 18 | 4 | ¼ | 4 | 18 | 4 | ¼ | 4 | 163⅝ | 100⅞ | ..... | 37½ | 9 |
| MacDonald O–5 | 4 | | 1 | .... | V | 9 | 1¾ | 10 | 1⅜ | 33 | 1½ | F | 31½ | 2½ | | 2 | 18½ | 2½ | | 2 | Opt | ..... | ..... | ..... | ..... |
| MacDonald A–7 | 4 | ¼ | 1¼ | .... | V | 12 | 2 | 21 | 1¼ | 35 | 2 | F | 70 | 3 | ¼ | 1 | 34 | 3 | ¼ | 1 | ..... | ..... | ..... | ..... | ..... |
| MacDonald AB–7½ | 4 | ¼ | 1¼ | .... | V | 12¼ | 2 | 8 | 1¼ | 34¼ | 2 | F | 33½ | 3 | | 2 | 18½ | 3 | | 2 | 176 | ..... | ..... | ..... | ..... |
| Mack AB–1½, 2, 2½–T.–Ch | 3 | | 1¼ | 1½ | V | 7¼ | 1½ | 5⅜ | 1¼ | 36⅝ | 1¼ | F | 12¼ | 4 | ¼ | 4 | 16½ | 2½ | ¼ | 4 | Opt | ..... | ..... | 33¼ | ..... |
| Mack Dual R'd'n–1½–2,2½ | 3 | | 1¼ | 1½ | V | 7¼ | 1½ | 5⅜ | 1¼ | 36⅝ | 1¼ | F | 18¼ | 3½ | ¼ | 4 | 12 | 6 | ¼ | 2 | Opt | ..... | ..... | 33¼ | ..... |
| Mack AB–Tractor 5 Ton.. | 3 | | 1¼ | 1½ | V | 7¼ | 1½ | 5⅜ | 1¼ | 36⅝ | 1¼ | F | 12¼ | 4 | ¼ | 2 | 16½ | 2½ | ¼ | 4 | 77 | ..... | ..... | 33½ | ..... |
| Mack AC–3½ to 7½ Ton.. | 3 | | 1 | 1½ | V | 10¼ | 2 | 6 | 2 | ..... | ..... | ... | 16⅛ | 3 | ¼ | 4 | 20½ | 3½ | ¼ | 4 | Opt | ..... | ..... | 37½ | ..... |
| Mack AC–Trac. 7 to 15 Ton | 3 | ¼ | 1½ | 1½ | V | 5¾ | 2¼ | 3¼ | 2 | ..... | ..... | ... | 16⅛ | 3 | ¼ | 4 | 20½ | 3½ | ¼ | 4 | 87 | ..... | ..... | 37½ | ..... |
| Mason Road King | 3 | ¼ | 1⅝ | .... | V | 11⅝ | 2 | 14⅛ | 1½ | ..... | 1½ | F | 42 | 2¾ | | 1 | 40⅝ | 2¾ | | 1 | 84¾ | 56¼ | 175 | 30 | 10 |
| Master 22–1½ | 4 | ¼ | 1¼ | 1 | V | 13½ | 2 | 12½ | 1¼ | 30½ | 1 | F | 12 | 3¼ | ¼ | 2 | 12 | 3¼ | ¼ | 2 | Opt | ..... | ..... | 34⅛ | ..... |
| Master 41–2½ | 4 | ¼ | 1¼ | 1 | V | 13½ | 2 | 12½ | 1¼ | 31 | 1¼ | F | 13¼ | 3½ | ¼ | 2 | 13¼ | 3½ | ¼ | 2 | 117⅜ | ..... | ..... | 34 | ..... |
| Master 51–3½ | 4 | ¼ | 1½ | 1 | V | 13½ | 2 | 15 | 1¼ | 35 | 2 | F | 16 | 3¾ | ¼ | 2 | 16 | 3¾ | ¼ | 2 | 147¾ | ..... | ..... | 36¾ | ..... |
| Master 61–5 | 4 | ¼ | 1½ | 1 | V | 13½ | 2 | 15 | 1¼ | 35 | 2 | F | 13¼ | 4 | ¼ | 2 | 18 | 4 | ¼ | 2 | 162⅞ | ..... | ..... | 36¾ | ..... |
| Master 64–5–6 | 4 | ¼ | 1½ | 1 | V | 13½ | 2 | 15 | 1½ | 37 | 2 | F | 13¼ | 4 | ¼ | 2 | 18 | 4 | ¼ | 2 | 162⅞ | ..... | ..... | 39 | ..... |
| Maxwell 1½ | 3 | ⅛ | 1 | | V | 7¾ | 2⅛ | 3½ | 2⅛ | 36½ | ⅝ | .. | 31 | 1½ | | 4 | 19¾ | 1¾ | | 4 | 102 | ..... | ..... | 36 | ..... |
| Menominee Hurryton–1 | 3 | ¼ | 1¼ | 1¾ | .... | 6 | 1½ | 12 | 1¼ | 40 | 1¼ | F | 11 | 2½ | ¼ | 4 | 11 | 2½ | ¼ | 4 | 102 | ..... | ..... | 33 | ..... |
| Menominee H–1½ | 3 | ¼ | 1¼ | 1¾ | .... | ..... | ..... | ..... | ..... | ..... | ..... | ... | 13½ | 3½ | ¼ | 8 | ..... | ..... | ..... | ... | 122 | ..... | ..... | 32 | ..... |
| Menominee D–2 | 3 | ¼ | 1¼ | 1¾ | .... | 3 | 1¾ | 3 | 1½ | 37¾ | 2 | F | 13½ | 3½ | ¼ | 8 | 42½ | 2½ | | 2 | 146 | ..... | ..... | 32 | ..... |
| Menominee HT–1¼ | 3 | ¼ | 1 | 1½ | .... | 9¼ | 1¾ | 10½ | 1¼ | 33¾ | 1¼ | F | 47 | 2½ | | 2 | 33¼ | 2½ | | 2 | 102¾ | ..... | ..... | 32 | ..... |
| Menominee RX–5 | 3 | ¼ | 1½ | 2 | .... | 3 | 1¾ | 3 | 1¾ | 40¾ | 2 | F | 69 | 3½ | | 2 | 52 | 2½ | | 2 | 149 | ..... | ..... | 38 | ..... |
| Menominee G–3½ | 3 | ¼ | 1¼ | 1¾ | .... | 3 | 1¾ | 3 | 1¾ | 37¾ | 2 | F | 15⅝ | 3¾ | ¼ | 4 | 15⅝ | 3¾ | ¼ | 4 | 149 | ..... | ..... | 36 | ..... |
| Moreland RR | 3 | ¼ | 1 | 1¼ | H | 8 | 1½ | 11¼ | 1½ | 34 | 1½ | F | 49 | 2½ | ¼ | 2 | 46 | 2½ | ¼ | 2 | 108 | 56 | 208⅜ | 34 | ..... |
| Moreland BX–1½ | 3 | ¼ | 1 | 1¼ | H | 8 | 1½ | 11¼ | 1½ | 34 | 1½ | F | 12 | 3¼ | ¼ | 4 | 12 | 3¼ | ¼ | 4 | 108 | 56 | 208⅜ | 34 | ..... |
| Moreland EX–2 | 3 | ¼ | 1¼ | 1½ | H | 9 | 1½ | 13 | 1½ | 42 | 1½ | F | 12 | 3¼ | ¼ | 4 | 12 | 3¼ | ¼ | 4 | 132 | 79½ | 226¼ | 34 | ..... |
| Moreland AX–3 | 3 | ¼ | 1¼ | 1½ | H | 9 | 1½ | 13 | 1½ | 42 | 1½ | F | 13½ | 3½ | ¼ | 4 | 13½ | 3½ | ¼ | 4 | 174 | 101¼ | 253 | 34 | ..... |
| Moreland RX–5 | 3 | ¼ | 1½ | 1¾ | H | 9 | 2 | 19 | 2 | 42 | 2 | F | 15½ | 3¾ | ¼ | 4 | 15½ | 3¾ | ¼ | 4 | 192 | 115¼ | 271 | 38 | ..... |
| Napoleon 9–1 | 3 | | 1 | | H | 6½ | 2¼ | 14 | 2¼ | 39 | 1 | F | 21 | 4 | | 1 | 30 | 2½ | | 1 | 100¾ | 60 | 193 | 35¾ | 10 |
| Napoleon 11–1½ | 3 | | 1 | | H | 6½ | 2¼ | 14 | 2¼ | 39 | 1 | F | 21 | 4 | | 1 | 30 | 2½ | | 1 | 100⅝ | ..... | ..... | 35¾ | ..... |
| Nash 2018–1–1½ | 4 | ¼ | 1¼ | 1¼ | .... | 3 | 1½ | 7¾ | 1¼ | 36 | 1 | F | 49⅛ | 2 | | 2 | 20 | 2½ | | 1 | 104½ | 61 | 193 | 30½ | 9¼ |
| Nash 3018–2–2½ | 4 | ¼ | 1¼ | 1¼ | .... | 3 | 1½ | ..... | ..... | 44 | 1 | F | 50⅝ | 3 | | 2 | 20 | 2½ | | 1 | 118¼ | 65 | 207 | 31⅝ | 9¼ |
| Nash 4017–2–2½ | 3 | ¼ | 1¼ | 1¼ | .... | 7 | 1½ | ..... | ..... | 44 | 2 | F | 49¼ | 2½ | ¼ | 4 | 25 | 2½ | ¼ | 1 | 117⅛ | 85½ | 202½ | 38⅛ | 14¾ |
| Nelson & LeMoon G–2 | 4 | ¼ | 1¼ | | V | 9 | 1⅜ | 3½ | 1⅜ | 41¼ | 1¼ | ... | 12 | 3¼ | ¼ | 2 | 12 | 3¼ | ¼ | 2 | Opt | ..... | ..... | ..... | 11 |
| Nelson & LeMoon G–3 | 4 | ¼ | 1¼ | | V | 9 | 1⅜ | 3½ | 1⅜ | 41¼ | 1¼ | ... | 13½ | 3½ | ¼ | 2 | 13½ | 3½ | ¼ | 2 | Opt | ..... | ..... | ..... | 11 |
| Nelson & LeMoon G–4 | 4 | ¼ | 1¼ | | V | 9 | 1⅜ | 3½ | 1⅜ | 41¼ | 1¼ | ... | 16½ | 3¾ | ¼ | 2 | 16½ | 3¾ | ¼ | 2 | Opt | ..... | ..... | ..... | 11 |
| Nelson & LeMoon G–5 | 4 | ¼ | 1½ | | V | 12 | 2 | 6 | 2 | 40½ | 2 | ... | 18 | 4 | ¼ | 2 | 18 | 4 | ¼ | 2 | Opt | ..... | ..... | ..... | 11 |
| Netco DK–2 | 3 | | 1¼ | 1 | V | 12 | 1½ | 16 | 1¼ | 40 | 1½ | F | 13 | 3½ | ¼ | 4 | 13 | 3½ | ¼ | 4 | 142 | 94 | 234½ | 34¼ | 9 |
| Netco HL–2½–3 | 3 | | 1½ | 1 | V | 13 | 1½ | 16 | 1¼ | 41¼ | 1½ | F | 13 | 3½ | ¼ | 4 | 13 | 3½ | ¼ | 4 | 139½ | 93½ | 234½ | 34¼ | 9 |
| Niles E–2 | 3 | | 1¾ | 1¾ | V | 8 | 1¾ | 11 | 1¼ | 30 | ¾ | F | 12 | 3¼ | ¼ | 2 | 12 | 3¼ | ¼ | 2 | 147 | 75 | 202 | 56 | 9½ |
| Niles H–2½ | 4 | ¼ | 1¼ | 1¾ | V | 12 | 2 | 10 | 1¼ | 35 | 2⅛ | F | 13 | 3½ | ¼ | 2 | 13 | 3½ | ¼ | 2 | 147 | 75 | 214 | 34¼ | 9½ |
| Noble A21–1¼ | 4 | | 1 | 1 | .... | 10 | 1¾ | 12½ | 1¼ | 33½ | 1½ | F | 19 | 2 | ¼ | 4 | 19 | 2 | ¼ | 2 | 102 | 74 | 203 | 34 | ..... |
| Noble B31–2 | 4 | | 1 | 1 | .... | 7 | 1⅞ | 16½ | 1¼ | 34¼ | 1⅞ | F | 43 | 2 | ¼ | 2 | 43 | 2 | ¼ | 2 | 126 | 80 | 221 | 34 | ..... |
| Noble D51–2½ | 4 | ¼ | 1¼ | 1 | .... | 9 | 2 | 12 | 1¼ | 34¼ | 1⅞ | F | 21 | 2¼ | ¼ | 4 | 21 | 2¼ | ¼ | 4 | ..... | 101 | 207 | 34 | ..... |
| Noble E71—3½ | 4 | ¼ | 1¼ | 1 | .... | 14½ | 2 | 16 | 1¼ | 34¼ | 1⅞ | F | 57 | 2½ | ¼ | 2 | 57 | 2½ | ¼ | 2 | ..... | 114 | 218 | 36 | ..... |
| Northway B–2–2 | 3 | | 1 | 1¾ | V | 5¼ | 2¼ | 13⅞ | 1¼ | 46 | ⅝ | V | 50½ | 2¼ | ¼ | 2 | 50½ | 2¼ | ¼ | 2 | 133 | 62 | 223½ | 33 | 9 |
| Northway B–3–3½ | 3 | | 1 | 1¾ | V | 5¼ | 2¼ | 13⅞ | 1¼ | 46 | ⅝ | V | 54 | 2½ | ¼ | 2 | 54 | 2½ | ¼ | 2 | 173 | 92 | 253¼ | 34⅝ | 11 |
| Ogden A–2–¾ | 3 | | 1 | 1 | H | 12 | 2 | 6 | 2 | 44 | ¾ | V | 11 | 2½ | ¼ | 4 | 11 | 2½ | ¼ | 4 | 108 | 56 | 186 | 33¼ | 10½ |
| Ogden D–1½ | 3 | | 1 | 1 | V | 13 | 2 | 12 | 2 | 44 | ¾ | V | 10 | 3 | ¼ | 4 | 10 | 3 | ¼ | 4 | 120 | ..... | ..... | 33¼ | ..... |
| Ogden E–2½ | 3 | | 1¼ | 2 | V | 10 | 1 | 14 | 1 | 30 | 1¼ | F | 52 | 2¼ | ¼ | 1 | 52 | 2¼ | ¼ | 1 | 144 | ..... | ..... | 33¼ | ..... |
| Ogden F–3½ | 3 | ¼ | 1¼ | 2 | V | 11 | ½ | 16 | 1½ | 36 | 1½ | F | 15⅝ | 3¾ | ¼ | 4 | 10⅜ | 3¾ | ¼ | 4 | 168 | ..... | ..... | 37 | ..... |
| Ogden G–5 | 3 | ¼ | 1½ | 3 | V | 9 | 2 | 18 | 2 | 40 | 2 | F | 11 | 6 | ¼ | 2 | 25 | 4 | ¼ | 4 | 168 | ..... | ..... | 37 | ..... |
| O. K.–1½ | 4 | ¼ | 1¼ | 1 | V | 12 | 2 | 13½ | 1¼ | 36 | 2 | F | 53 | 2½ | | 2 | 38 | 2½ | | 2 | 117 | ..... | ..... | 34 | ..... |
| O. K.–2½ | 4 | ¼ | 1¼ | 1 | V | 12 | 2 | 13½ | 1¼ | 36 | 2 | F | 62 | 2½ | | 2 | 48 | 2½ | | 2 | 121 | ..... | ..... | 35 | ..... |
| O. K.–3½ | 4 | ¼ | 1¼ | 1 | V | 12 | 2 | 13½ | 1¼ | 38 | 2 | F | 62 | 2½ | | 2 | 48 | 2½ | | 2 | 133 | ..... | ..... | 34 | ..... |
| Old Reliable B–2½ | 3 | ¼ | 1¼ | 1¼ | .... | ..... | ..... | ..... | ..... | ..... | ..... | ... | 54 | 2 | ¼ | 1 | 54 | 2 | ¼ | 1 | 144 | ..... | ..... | 32 | ..... |
| Old Reliable C–3½ | 3 | ¼ | 1½ | 1½ | .... | ..... | ..... | ..... | ..... | ..... | ..... | ... | 60 | 2½ | ¼ | 1 | 60 | 2½ | ¼ | 1 | 150 | ..... | ..... | 32 | ..... |
| Old Reliable D–5 | 3 | ¼ | 1½ | 1½ | .... | ..... | ..... | ..... | ..... | ..... | ..... | ... | 72 | 3 | ¼ | 1 | 72 | 3 | ¼ | 1 | 156 | ..... | ..... | 34 | ..... |
| Old Reliable K. L. M.–7 | 3 | ¼ | 1½ | 1½ | .... | ..... | ..... | ..... | ..... | ..... | ..... | ... | 54 | 3½ | ¼ | 1 | 60 | 4 | ¼ | 1 | 158 | ..... | ..... | 36 | ..... |
| Oldsmobile T–1 | 3 | | 1 | 1⅜ | V | 6¼ | 1¼ | 10½ | 1¼ | 40½ | ¾ | V | 42¼ | 2 | | 2 | 41 | 2 | | 1 | 92⅝ | 60⅞ | 177¾ | 34 | 12⅛ |
| Olympic A–2½ | 4 | ¼ | 1¼ | 1½ | V | 13 | 2 | 12 | 1¼ | 34 | 2 | F | 13½ | 3½ | ¼ | 2 | 13½ | 3½ | ¼ | 2 | Opt | 84 | 240 | 32½ | 10 |
| Oneida B9–2 | 3 | | 1¼ | 1½ | H | 9½ | 1¼ | 9½ | 1¼ | 38½ | 2 | F | 48 | 2½ | | 2 | 34 | 2½ | | 2 | 114 | ..... | ..... | 34 | ..... |
| Oneida C9–2½ | 3 | | 1¼ | 1½ | H | 9¾ | 1¼ | 9½ | 1¼ | 38½ | 2 | F | 58 | 2½ | | 2 | 43 | 2½ | | 2 | 138 | ..... | ..... | 34 | ..... |
| Oneida D9–3½ | 3 | ¼ | 1¼ | 1½ | H | 7 | 1½ | 9½ | 1½ | 40 | 2 | F | 16 | 3¾ | ¼ | 4 | 16 | 3¾ | ¼ | 4 | 157 | ..... | ..... | 36 | ..... |
| Oneida E9–5 | 3 | ¼ | 1¼ | 1½ | H | 7½ | 1¾ | 9½ | 1½ | 40 | 2 | F | 18 | 4 | ¼ | 4 | 18 | 4 | ¼ | 4 | 177 | ..... | ..... | 38 | ..... |
| Oshkosh A–2 | 3 | | 1¼ | 1½ | H | 16 | 2 | 17 | 2 | 33¼ | 1¼ | F | 23⅝ | 3½ | ¼ | 1 | 43½ | 2½ | | 2 | 108 | 75⅝ | 189 | 34 | ..... |
| Oshkosh AA–2 | 3 | | 1¼ | 1½ | H | 16 | 2 | 17 | 2 | 33¼ | 1¼ | F | 23⅝ | 3½ | ¼ | 1 | 43½ | 2½ | | 2 | 144 | 110⅝ | 224 | 34 | ..... |
| Oshkosh B–2½ | 4 | | 1¼ | 1¾ | V | 9¾ | 1½ | 12 | 1½ | 36½ | 2 | F | 23⅝ | 4½ | ⅝ | 1 | 43½ | 2½ | | 2 | 125 | 85½ | 241 | 34 | ..... |
| Oshkosh BB2½ | 4 | | 1¼ | 1¾ | V | 9¾ | 1½ | 12 | 1½ | 36½ | 2 | F | 23⅝ | 4½ | ⅝ | 1 | 43½ | 2½ | | 2 | 144 | 104½ | 230 | 34 | ..... |
| Overland ½ | 4 | | 1 | 1 | H | 12 | 2 | 7¼ | 2 | 33¼ | ⅞ | F | 31 | 1½ | | 2 | 27 | 1¼ | | 2 | Opt | Opt | 127¾ | 26 | 9½ |
| Packard EC | 3 | ¼ | 1⅝ | 1¾ | V | 6¼ | 1½ | 10⅜ | 1½ | 41 | ⅝ | V | 7 | 4¾ | ¼ | 2 | 14 | 2 | | 4 | 132 | 81⅛ | 219 | 31¾ | 9¾ |
| Packard ED | 3 | ¼ | 1⅝ | 1¾ | V | 6¼ | 1½ | 10⅜ | 1½ | 43 | ⅝ | V | 9 | 4¾ | ¼ | 2 | 17 | 3 | | 4 | 144 | 89⅛ | 235 | 39 | 9 |
| Packard EF | 3 | ¼ | 1⅝ | 1¾ | V | 6¼ | 1½ | 10⅜ | 1½ | 43 | ⅝ | V | 9 | 6½ | ¼ | 2 | 18¾ | 3½ | | 4 | 144 | 119⅛ | 283 | 39 | 9½ |
| Packard EX | 3 | ¼ | 1⅝ | 1¾ | V | 6¼ | 1½ | 10⅜ | 1½ | 41 | ⅝ | V | 7 | 4¾ | ¼ | 2 | 14 | 2 | | 4 | 132 | 81⅛ | 219 | 31¾ | 12 |
| Parker B–23 | 4 | | 1 | 1¼ | V | 9 | 2 | 6 | 1¼ | 32 | 1½ | F | 42 | 2¾ | | 2 | 42 | 2¾ | | 2 | 94½ | 58½ | 184½ | 33 | 9½ |
| Parker E–23 | 3 | | 1¼ | 1½ | V | 4 | 1¼ | 16 | 1¼ | 37¾ | 1¼ | F | 11¾ | 3¼ | ¼ | 4 | 11¾ | 3¼ | ¼ | 4 | 113½ | 70½ | 200 | 33 | 9¾ |
| Parker G1–2½ | 3 | ¼ | 1¼ | 1½ | V | 19 | 1¾ | 16 | 1½ | 38 | 2 | F | 10¾ | 5 | ¼ | 2 | 19 | 2½ | ¼ | 4 | 127 | 79 | 219 | 33 | 9½ |
| Parker J20–3½ | 3 | ¼ | 1¼ | 1½ | V | 19 | 1¾ | 16½ | 1½ | 38 | 2 | F | 10¾ | 5 | ¼ | 2 | 19 | 3½ | ¼ | 4 | 139½ | 90 | 231½ | 33 | 11 |
| Parker M20–5 | 3 | ¼ | 1½ | 1¾ | V | 14 | 1¾ | 18 | 1¾ | 40½ | 2 | F | 10¾ | 5 | ¼ | 2 | 24½ | 4 | ¼ | 4 | 145 | 83½ | 243½ | 37 | 10¼ |
| Patriot Revere–1 | 3 | | 1 | ⅜ | H | 8 | 2 | 9 | 2 | 39 | 1¼ | F | 40½ | 1¾ | | 1 | 40½ | 1¾ | | 1 | 93 | 56 | 184 | 33¼ | 11¾ |
| Patriot Lincoln Special–2 | 3 | | 1 | ⅜ | V | 6 | 1¼ | 8 | 1½ | 37 | 1¾ | F | 40½ | 1¾ | | 1 | 40½ | 1¾ | | 1 | 113 | 65 | 207 | 34 | 10 |
| Patriot Washington Spl.–3 | 3 | ¼ | 1 | ⅜ | V | 11 | 1½ | 10 | 2 | 39 | 2 | F | 58 | 2½ | ¼ | 1 | 43 | 2½ | ¼ | 1 | 150 | 82 | 246 | 34 | 10 |
| Pierce Arrow–2–X–5 | 3 | | 1 | 1⅝ | V | 16⅜ | 2⅛ | 14¼ | 2⅛ | 43½ | 1½ | F | 22¼ | 2¼ | ¼ | 4 | 22¼ | 2¼ | ¼ | 4 | 125 | 70 | 225 | 34½ | ..... |
| Pierce Arrow–3½–W–2 | 3 | | 1 | 1⅞ | V | 11 | 2⅛ | 15½ | 2⅛ | 43½ | 1½ | F | 9 | 6 | ¼ | 2 | 18 | 4¾ | | 4 | 133¼ | 78¾ | 237 | 38⅛ | ..... |
| Pierce Arrow–5–R–10 | 3 | | 1 | 1⅞ | V | 11 | 2⅛ | 15½ | 2⅛ | 43½ | 1½ | F | 9 | 6 | ¼ | 2 | 20⅞ | 4¾ | | 4 | 139¼ | 84¾ | 243 | 38⅛ | ..... |
| Pioneer 59AA–1 | 3 | | 1¼ | 1½ | V | 13 | 2 | 12 | 2 | 35 | 1 | F | 14 | 1¾ | | 4 | 14 | 1¾ | | 4 | 102 | ..... | ..... | 30 | ..... |

# Replacement Table—Continued

| NAME, MODEL AND TONNAGE | ENGINE | | | | | | | | | | | | BRAKE LINING | | | | | | | | FRAME | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Piston Rings | | Carburetor | | | Upper Hose | | Lower Hose | | Fan Belt | | | Service | | | | Emergency | | | | Length | | | Width | |
| | No. per Cyl. | Width | Outlet Diameter | Inlet Diameter | Vertical or Horizontal | Length | Width | Length | Width | Length | Width | Type | Length | Width | Thickness | No. of Pieces | Length | Width | Thickness | No. of Pieces | Back of Driver's Seat | Driver's Seat to Center of Rear Axle | Over All | Over All | Clearance at Lowest Point of Chassis |
| Pittsburgher 2½ | 3 | ¼ | 1¼ | 1¼ | V | 6 | 1½ | 12 | 1¼ | 37 | 1 | F | 52 | 2¼ | ¼ | 2 | 52 | 2¼ | ¼ | 2 | 136 | | | 33 | |
| Power F-2½ | 3 | ¼ | .... | .... | .... | 8 | 1¼ | 12¼ | 1¼ | 39¾ | 2 | F | 26 | 2 | ¼ | 4 | 26 | 2 | ¼ | 4 | 143 | | | 32 | |
| Rainier R31-¾ | 3 | ¼ | 1 | ¼ | V | 9 | 2 | 6 | 2 | 43¾ | ⅝ | V | 11 | 2½ | ¼ | 4 | 11 | 2½ | ¼ | 4 | 86½ | 50⅜ | 181 | 34 | 11¾ |
| Rainier R-29-1 | 3 | ¼ | 1 | ¼ | V | 9 | 2 | 6 | 2 | 43¾ | ⅝ | V | 11 | 2½ | ¼ | 4 | 11 | 2½ | ¼ | 4 | 96½ | 57⅜ | 190¼ | 34 | 10¼ |
| Rainier R36-1½ | 4 | ¼ | 1 | ¼ | V | 8 | 1½ | 14 | 1½ | 39½ | 1¼ | F | 11¾ | 3¼ | ¼ | 4 | 11 | 3¼ | ¼ | 4 | 111 | 72¼ | 206½ | 34 | 9⅝ |
| Rainier R28-2-2½ | 4 | ¼ | 1¼ | ¼ | V | 9½ | 1½ | 14 | 1½ | 42 | 1¼ | F | 20 | 2¼ | ¼ | 4 | 20 | 2¼ | ¼ | 4 | 124¾ | 80½ | 225 | 33 | 9⅝ |
| Rainier R20-2½-3 | 4 | ¼ | 1¼ | ¼ | V | 9½ | 1½ | 14 | 1½ | 42 | 1¼ | F | 13 | 3½ | ¼ | 4 | 13 | 3½ | ¼ | 4 | 137½ | 85½ | 241¾ | 33 | 10 |
| Rainier R25-3½-5 | 4 | ¼ | 1¼ | ¼ | V | 9½ | 1½ | 14 | 1½ | 42 | 1¼ | F | 15½ | 3¾ | ¼ | 4 | 15½ | 3¾ | ¼ | 4 | 157½ | 91 | 263½ | 37 | 8¾ |
| Rainier R27-6 | 4 | ¼ | 1½ | ¼ | V | 9½ | 1½ | 14 | 1½ | 42 | 1¾ | F | 18 | 4 | ¼ | 4 | 18 | 4 | ¼ | 4 | 154½ | 88 | 263⅛ | 37 | 9½ |
| Reliance 10A-1½ | 4 | ¼ | 1¼ | ⅜ | V | 10½ | 2 | 13½ | 1⅜ | 35 | 2 | F | 17 | 2 | ¼ | 4 | 17 | 2 | ¼ | 4 | 122 | | | 34 | |
| Reliance 20B-2½ | 4 | ¼ | 1¼ | ⅜ | V | 10½ | 2 | 13½ | 1⅜ | 35 | 2 | F | 17 | 2 | ¼ | 4 | 17 | 2 | ¼ | 4 | 127 | | | 32 | |
| Reo F-2500 lbs | 3 | ¼ | 1 | 1¼ | V | 5½ | 1 | 5½ | 1 | 39 | ⅞ | F | 45⅜ | 3 | ¼ | 1 | 40 | 3 | ¼ | 1 | 81 | 55¾ | 171 | 30 | 10¼ |
| Republic 10-1-10E-1 | 3 | ¼ | 1 | .... | V | 12¼ | 2 | 6 | 2 | 40 | 1¼ | F | 21¼ | 2½ | ¼ | 4 | 19¾ | 2¼ | ¼ | 4 | .... | | | 34 | |
| Republic 11X-1½ | 3 | ¼ | 1 | .... | V | 12¼ | 2 | 6 | 2 | 40 | 1¼ | F | 25¼ | 2½ | ¼ | 4 | 24¼ | 2¼ | ¼ | 2 | 118 | | | 34 | |
| Republic 19-2½ | 3 | ¼ | 1¼ | .... | V | 8 | 1½ | 11¾ | 1¼ | 32 | 1¼ | F | 25¼ | 2½ | ¼ | 4 | 24¼ | 2¼ | ¼ | 2 | 121 | | | 34 | |
| Republic 20-3½ | 3 | ¼ | 1¼ | .... | V | 7¼ | 1¾ | 5½ | 1¼ | 36¼ | 1½ | F | 55¾ | 3½ | ¼ | 2 | 30 | 4½ | ¼ | 1 | 146 | | | 37 | |
| Republic Rapid Transit-¾ | 3 | ¼ | 1 | .... | V | 12 | 2¼ | 18½ | 2¼ | 31 | 1 | F | 19 | 2 | ¼ | 4 | 18 | 2 | ¼ | 4 | 95 | | | 31 | |
| Reynolds 23A-2 | 3 | ¼ | 1¼ | 1 | V | 10½ | 1½ | 10½ | 1½ | 35 | 2 | F | 24 | 2½ | ¼ | 4 | 24 | 2½ | ¼ | 4 | 136 | | | 33 | |
| Reynolds 23B-3 | 3 | ¼ | 1¼ | 1 | V | 10½ | 1½ | 10½ | 1½ | 35 | 2 | F | 24 | 2½ | ¼ | 4 | 24 | 2½ | ¼ | 4 | 156 | | | 33 | |
| Reynolds 23C-25-pas. Bus | 3 | ¼ | 1¼ | 1 | V | 10½ | 1½ | 10½ | 1½ | 35 | 2 | F | Opt | 2½ | ¼ | 2 | 27 | 2½ | ¼ | 2 | 220 | | | 53⅝ | |
| Rowe CW-1½ | 3 | ¼ | 1¼ | ¼ | .... | 10½ | 1¾ | 10½ | 1½ | 32½ | 1⅛ | F | 19 | 2 | ¼ | 4 | 19 | 2 | ¼ | 4 | 113 | 72 | 192½ | 33 | 11 |
| Rowe CDW-2 | 3 | ¼ | 1¼ | ¼ | .... | 10½ | 1¾ | 10½ | 1½ | 32½ | 1⅛ | F | 24 | 2½ | ¼ | 4 | 24 | 2½ | ¼ | 4 | 123 | 79 | 202½ | 33 | 10⅝ |
| Rowe CDW-2½ | 4 | ¼ | 1¼ | ¼ | V | 20 | 1¾ | 15½ | 1½ | 32½ | 1⅛ | F | 24 | 2½ | ¼ | 4 | 24 | 2½ | ¼ | 4 | 123 | 103½ | 224 | 33 | 9¾ |
| Rowe GSW-3 | 3 | ¼ | 1¼ | ¼ | .... | 20 | 1¾ | 15½ | 1½ | 36¼ | 2 | F | 24 | 2½ | ¼ | 4 | 24 | 2½ | ¼ | 4 | 140 | 96¼ | 224 | 33 | 9¼ |
| Rowe HW-4 | 3 | ¼ | 1¼ | ¼ | .... | 20 | 1¾ | 15½ | 1½ | 36½ | 2 | F | 56½ | 2½ | ¼ | 2 | 56½ | 2½ | ¼ | 2 | 146 | 96 | 230½ | 36 | 9 |
| Rowe FW-5 | 3 | ¼ | 1¼ | ¼ | .... | 20 | 1¾ | 15½ | 1½ | 36¼ | 2 | F | 68 | 3 | ¼ | 2 | 68 | 3 | ¼ | 2 | 153 | 107¼ | 237½ | 38½ | 10½ |
| Rowe GPW-3 | 3 | ¼ | 1¼ | ¼ | .... | 10 | 1¼ | 6 | 1¾ | .... | .... | .... | 24 | 2½ | ¼ | 4 | 24 | 2½ | ¼ | 4 | 152 | 96¼ | 233 | 33 | 12¾ |
| Ruggles 15-¾ | 3 | ¼ | 1 | ¼ | V | 12½ | 2 | 20 | 2 | 34¾ | 1¼ | F | 43⅞ | 2 | ¼ | 4 | 39 | 1¾ | ¼ | 2 | 128 | 97½ | 170 | 38½ | 9¼ |
| Ruggles 20R-1¼ | 3 | ¼ | 1¼ | ¼ | V | 7½ | 2 | 13½ | 1¼ | 35 | 1½ | F | 48 | 2½ | ¼ | 2 | 46⅝ | 2¼ | ¼ | 2 | 96⅝ | 55⅜ | 186¾ | 34 | 11 |
| Ruggles 20AR-1¼ | 3 | ¼ | 1¼ | ¼ | V | 7½ | 2 | 13½ | 1¼ | 35 | 1½ | F | 48 | 2½ | ¼ | 2 | 46⅝ | 2¼ | ¼ | 2 | 104½ | 65 | 194¾ | 34 | 11 |
| Ruggles 40-2 | 3 | ¼ | 1¼ | ¼ | V | 7½ | 2 | 13½ | 1¼ | 35 | 1½ | F | 47½ | 2½ | ¼ | 2 | 33¼ | 2½ | ¼ | 2 | 134¼ | 75½ | 224 | 34 | 8¼ |
| Ruggles 40H-2½ | 3 | ¼ | 1¼ | ¼ | V | 7½ | 2 | 13½ | 1¼ | 35 | 1½ | F | 58 | 2½ | ¼ | 2 | 44 | 2½ | ¼ | 2 | 134¼ | 75½ | 224 | 34 | 9¼ |
| Rumely A-1½ | 4 | ¼ | 1¼ | 1¼ | V | 10½ | 1¾ | 10½ | 1¼ | 37 | 2 | F | 18 | 2 | ¼ | 4 | 18 | 2 | ¼ | 4 | 122 | 72 | 213 | 34 | 11 |
| Sanford W15-1½ | 3 | ¼ | 1 | 1 | H | 9 | 2¼ | 11 | 1½ | 40 | ⅝ | V | 22¼ | 2¼ | ¼ | 4 | 22¼ | 2¼ | ¼ | 4 | 120 | 71¾ | 205¾ | 32 | 11 |
| Sanford 25-2½ | 3 | ¼ | 1¼ | 1¼ | V | 8 | 1½ | 11 | 1½ | 32 | 1⅛ | F | 22¼ | 2¼ | ¼ | 4 | 22¼ | 2¼ | ¼ | 4 | 144 | 109½ | 238 | 35 | 9¾ |
| Sanford 35-3½ | 3 | ¼ | 1¼ | 1¼ | V | 9 | 2¼ | 11 | 1½ | 32 | 1⅛ | F | 55¾ | 2½ | ¼ | 2 | 55¾ | 2½ | ¼ | 2 | 144 | 97½ | 244 | 35 | 8 |
| Sanford 50-5 | 3 | ¼ | 1¼ | 1¼ | V | 9 | 2¼ | 11 | 1½ | 32 | 1⅛ | F | 65 | 2 | ¼ | 2 | 65 | 2 | ¼ | 2 | 144 | 97½ | 244 | 35 | 10½ |
| Schacht F-2 | 4 | ¼ | 1¼ | 2 | H | 11 | 2 | 14 | 1¼ | 37½ | 2 | F | 8¼ | 3 | ¼ | 4 | 13½ | 3 | ¼ | 4 | 140 | | | 35¾ | |
| Schacht F-3 | 4 | ¼ | 1¼ | 2 | H | 11 | 2 | 14 | 1¼ | 37½ | 2 | F | 8¼ | 3 | ¼ | 4 | 13½ | 3 | ¼ | 4 | 140 | | | 35¾ | |
| Schacht E-4 | 4 | ¼ | 1¼ | 2 | H | 10½ | 2 | 13½ | 1¼ | 39¼ | ⅞ | V | 8¼ | 3 | ¼ | 4 | 15 | 4 | ⅜ | 4 | 152 | | | 35¾ | |
| Schacht E-5 | 4 | ¼ | 1¼ | 2 | H | 10½ | 2 | 13½ | 1¼ | 39¼ | ⅞ | V | 8¼ | 3 | ¼ | 4 | 15 | 4 | ⅜ | 4 | 152 | | | 35¾ | |
| Schacht E-7 | 4 | ¼ | 1¼ | 2 | H | 10½ | 2 | 13½ | 1¼ | 39¼ | ⅞ | V | 8¼ | 3¼ | ¼ | 4 | 15 | 4 | ⅜ | 4 | 152 | | | 35¾ | |
| Selden Unit 30 | 3 | ¼ | 1 | 1 | V | 12 | 2 | .... | .... | 41 | 1¼ | F | 11 | 3¼ | 1¼ | 4 | 11 | 3¼ | ¼ | 4 | 114 | | | 34 | |
| Selden Unit 50 | 3 | ¼ | 1 | 1 | V | 8⅜ | 1½ | 14¾ | 1½ | 39¼ | 1½ | F | 13 | 3½ | ¼ | 4 | 13 | 3½ | ¼ | 4 | 136 | | | 34 | |
| Selden Unit 31 | 3 | ¼ | 1 | 1 | V | 3¾ | 1¼ | 12 | 1¼ | 31 | 1½ | F | 13 | 3½ | ¼ | 4 | 13 | 3½ | ¼ | 4 | 176 | | | 34 | |
| Selden Unit 70 | 3 | ¼ | 1¼ | 1 | V | 8⅜ | 1½ | 16¼ | 1½ | 40⅜ | 2 | F | 15⅝ | 3¾ | ¼ | 4 | 15⅝ | 3¾ | ¼ | 4 | 153 | | | 37½ | |
| Selden Unit 52 | 3 | ¼ | 1¼ | 1 | V | 8⅜ | 1½ | 16¼ | 1½ | 40⅜ | 2 | F | 15⅝ | 3¾ | ¼ | 4 | 15⅝ | 3¾ | ¼ | 4 | 204 | | | 52 | |
| Selden Unit 53 | 3 | ¼ | 1¼ | 1 | V | 11½ | 1½ | 16¼ | 1½ | 40 | 2 | F | 13 | 3½ | ¼ | 4 | 13 | 3½ | ¼ | 4 | 136 | | | 34 | |
| Selden Unit 90 | 3 | ¼ | 1½ | 1 | V | 7 | 1¾ | 16¾ | 1½ | 40⅜ | 2 | F | 17 | 4 | ¼ | 4 | 17 | 4 | ¼ | 4 | 153 | | | 37½ | |
| Service 12-¾ | 3 | ¼ | 1¼ | 1 | V | 13½ | 2½ | 14½ | 2½ | 35½ | 1¼ | F | 10 | 2½ | ¼ | 4 | 10 | 2½ | ¼ | 4 | 101½ | 54 | 176¾ | 37 | 9 |
| Service 25-1¼ | 3 | ¼ | 1¼ | 1⅜ | V | 12½ | 1¾ | 13 | 1¼ | 32¾ | 1½ | F | 19⅜ | 1¾ | ¼ | 4 | 19⅜ | 1¾ | ¼ | 4 | 106¾ | 65¾ | 190 | 32 | 9¼ |
| Service 21-1½ | 3 | ¼ | 1¼ | 1 | H | 10 | 2 | 6 | 1¾ | 37¾ | 1 | F | 12 | 3¼ | ¼ | 2 | 12 | 3¼ | ¼ | 2 | 109½ | 70½ | 187 | 34 | 9 |
| Service 32-2 | 4 | ¼ | 1¼ | 1 | V | 10 | 2 | 8 | 1¼ | 33 | 1¼ | F | 12 | 3¼ | ¼ | 2 | 12 | 3¼ | ¼ | 2 | 121 | 81 | 204½ | 34 | 10½ |
| Service 37-2 | 4 | ¼ | 1¼ | 1 | V | 10 | 2 | 8 | 1¼ | 33 | 1¼ | F | 12 | 3¼ | ¼ | 2 | 12 | 3¼ | ¼ | 2 | 121 | | | 34 | |
| Service 52-3 | 4 | ¼ | 1¼ | 1 | V | 10 | 2 | 8 | 1¼ | 33 | 1¼ | F | 13½ | 3½ | ¼ | 2 | 13½ | 3½ | ¼ | 2 | 131½ | 91 | 214½ | 34 | 10 |
| Service 72-3½ | 4 | ¼ | 1¼ | 1 | V | 10 | 2 | 8 | 1¼ | 33 | 1¼ | F | 16 | 3¾ | ¼ | 2 | 16 | 3¾ | ¼ | 2 | 150¼ | 104½ | 233¾ | 38 | 8½ |
| Service 77-4 | 4 | ¼ | 1¼ | 1 | V | 10 | 2 | 10 | 1¼ | 38¼ | 1½ | F | 16 | 3¾ | ¼ | 2 | 16 | 3¾ | ¼ | 2 | 145¾ | 100 | 233¾ | 38 | 8½ |
| Service 102-6 | 4 | ¼ | 1¼ | 1 | V | 10 | 2 | 10 | 1¼ | 38¼ | 1½ | F | 18½ | 4 | ¼ | 2 | 18½ | 4 | ¼ | 2 | 145¾ | 100 | 233¾ | 38 | 10 |
| Signal NF-1 | 4 | ¼ | 1¼ | 1 | V | 7¼ | 1½ | 12 | 1½ | 39¾ | 1¼ | F | 11 | 3 | ¼ | 4 | 11 | 3 | ¼ | 4 | 112 | | | 34 | |
| Signal H 1½ | 3 | ¼ | 1¼ | 1 | V | 8 | 1½ | 9 | 1¼ | 30½ | 1¼ | F | 11¾ | 3½ | ¼ | 4 | 11¾ | 3¼ | ¼ | 4 | 120 | | | 34 | |
| Signal J-2½ | 3 | ¼ | 1¼ | 1 | V | 10 | 1½ | 12 | 1¼ | 30½ | 1¼ | F | 13⅜ | 3½ | ¼ | 4 | 13⅜ | 3½ | ¼ | 4 | 126 | | | 34 | |
| Signal M 3½ | 3 | ¼ | 1¼ | 1 | V | 5½ | 1½ | 12 | 1¼ | 34¼ | 1¼ | F | 15¾ | 3¾ | ¼ | 4 | 15¾ | 3¾ | ¼ | 4 | 168 | | | 38 | |
| Signal R-5 | 3 | ¼ | 1¼ | 1⅛ | H | 8 | 2 | 16 | 2 | 41 | 2 | F | 18⅞ | 4 | ¼ | 4 | 18⅞ | 4 | ¼ | 4 | 172 | | | 00 | |
| Standard 75-1¼ | 3 | ¼ | 1 | 1¼ | H | 10½ | 2¼ | 14¾ | 1⅛ | 39¼ | 1¼ | F | 11¾ | 2½ | ¼ | 4 | 11¾ | 2½ | ¼ | 4 | 108 | | 198 | 38 | 9¾ |
| Standard 1½K-1-1½ | 3 | ¼ | 1 | 1¼ | V | 10½ | 2¼ | 14¾ | 1¼ | 39¼ | 1¼ | F | 10⅞ | 3 | ¼ | 4 | 10⅞ | 3 | ¼ | 4 | 120 | | 210 | 32 | 9⅞ |
| Standard 2½K-2½-3 | 3 | ¼ | 1¼ | 1¼ | V | 10 | 1⅞ | 16 | 1⅞ | 40⅞ | 1½ | F | 13¼ | 3½ | ¼ | 4 | 13¼ | 3½ | ¼ | 4 | 132 | | 220⅝ | 32 | 10 |
| Standard 3½K-3½-5 | 3 | ¼ | 1¼ | 1¼ | V | 10 | 1⅞ | 16 | 1⅞ | 41½ | 1½ | F | 15⅝ | 3¾ | ¼ | 4 | 15⅝ | 3¼ | ¼ | 4 | 144 | | 240 | 32 | 8¾ |
| Standard 5K-5-7 | 3 | ¼ | 1½ | 1¼ | V | 8 | 1⅞ | 3½ | 1⅞ | 42¼ | 1¾ | F | 17 | 4 | ¼ | 4 | 17 | 4 | ¼ | 4 | 144 | | 244½ | 38 | 9 |
| Sterling 1½ | 3 | ¼ | 1¼ | ¼ | V | 10 | 1½ | 19 | 1½ | 38 | 1½ | F | 11¾ | 3¼ | ¼ | 4 | 11¾ | 3¼ | ¼ | 4 | 120 | 70 | 216 | 38 | .... |
| Sterling 2 | 3 | ¼ | 1¼ | ¼ | V | 10 | 1½ | 19 | 1½ | 38 | 1½ | F | 13⅜ | 3½ | ¼ | 4 | 13⅜ | 3½ | ¼ | 4 | 120 | 70 | 216 | 33½ | .... |
| Sterling 2½ | 3 | ¼ | 1¼ | ¼ | V | 10 | 1½ | 19 | 1½ | 38 | 1½ | F | 13⅜ | 3½ | ¼ | 4 | 13⅜ | 3½ | ¼ | 4 | 138 | 84 | 234 | 33½ | .... |
| Sterling 3½ | 3 | ¼ | 1¼ | ¼ | V | 13½ | 1½ | 22 | 1½ | 40½ | 1½ | F | 15¾ | 3¾ | ¼ | 4 | 15¾ | 3¾ | ¼ | 4 | 144 | 85 | 245 | 34 | .... |
| Sterling 5-Worm | 3 | ¼ | 1½ | ¼ | V | 10 | 1½ | 19 | 1½ | 40½ | 1½ | F | 17 | 4 | ¼ | 4 | 17 | 4 | ¼ | 4 | 158 | 91 | 259 | 38 | .... |
| Sterling 5-Chain E.H.D. | 3 | ¼ | 1½ | ¼ | V | 10 | 1½ | 19 | 1½ | 40½ | 1½ | F | 56½ | 3½ | ¼ | 2 | 29 | 4 | ¼ | 1 | 158 | 97 | 259 | 38 | .... |
| Sterling 5-Ch. E. L. D. | 3 | ¼ | 1½ | ¼ | V | 13½ | 1½ | 22 | 1½ | 40½ | 1½ | F | 56½ | 3½ | ¼ | 2 | 29 | 4 | ¼ | 1 | 158 | 97 | 259 | 38 | .... |
| Sterling 7½ | 3 | ¼ | 1½ | ¼ | V | 10 | 1½ | 19 | 1½ | 40½ | 1½ | F | 56½ | 3½ | ¼ | 2 | 29 | 4 | ¼ | 1 | 158 | 97 | 259 | 38 | .... |
| Stewart M15-1 | 3 | ¼ | .... | 1 | .... | .... | .... | .... | .... | .... | .... | .... | 41⅜ | 2 | ¼ | 2 | 22½ | 2 | ¼ | 1 | 99½ | .... | .... | 38 | .... |
| Stewart M9-1½ | 3 | ¼ | .... | 1 | .... | .... | .... | .... | .... | .... | .... | .... | 48½ | 2 | ¼ | 2 | 8 | 5 | ¼ | 2 | 119¼ | .... | .... | 32 | .... |
| Stewart M7X | 3 | ¼ | .... | 1¼ | .... | .... | .... | .... | .... | .... | .... | .... | 50⅜ | 2 | ¼ | 2 | 8 | 5 | ¼ | 2 | 132¾ | .... | .... | 32 | .... |
| Stewart M10X | 3 | ¼ | .... | 1⅜ | .... | .... | .... | .... | .... | .... | .... | .... | 60 | 3 | ¼ | 2 | 8 | 5 | ¼ | 2 | 138 | .... | .... | 32 | .... |
| Stoughton C-¾ | 3 | ¼ | 1 | 1⅜ | V | 14 | 2½ | 14 | 2½ | 33 | 1½ | F | 56½ | 2½ | ⅛ | 2 | 55 | 2¼ | ⅛ | 2 | 92½ | 57 | 182 | 34 | 10½ |
| Stoughton A-1 | 4 | ¼ | 1 | 1⅜ | V | 18 | 1¼ | 15 | 1¼ | 39¼ | 1½ | F | 16¾ | 1¾ | ¼ | 4 | 16¾ | 1¾ | ¼ | 4 | 88 | 57½ | 181 | 34 | 11⅝ |
| Stoughton B-1½ | 4 | ¼ | 1 | 1⅜ | V | 18 | 1¼ | 15 | 1¼ | 39¼ | 1½ | F | 19 | 2 | ¼ | 4 | 19 | 2 | ¼ | 4 | 116 | 66 | 210 | 34 | 11 |
| Stoughton D-2 | 4 | ¼ | 1¼ | 1⅝ | V | 9 | 1½ | 15 | 1¼ | 40 | 2 | F | 23 | 2¼ | ¼ | 4 | 23 | 2¼ | ¼ | 4 | 116 | 70 | 210 | 34 | 9¾ |
| Stoughton F-3 | 3 | ¼ | 1¼ | 1⅝ | V | 12 | 2 | 15 | 1¼ | 44 | 2 | F | 23 | 2¼ | ¼ | 4 | 23 | 2¼ | ¼ | 4 | 127 | 82 | 222 | 36 | 9¾ |
| Super Truck 50 | 3 | ¼ | 1¼ | 1 | V | 19 | 1¾ | 19 | 1½ | 37½ | 1⅞ | F | 51½ | 2¼ | ¼ | 2 | 51½ | 1¼ | ¼ | 2 | 135 | | | 36 | |
| Super Truck 70 | 3 | ¼ | 1¼ | 1 | V | 19½ | 1¾ | 19 | 1½ | 37½ | 1⅞ | F | 55½ | 2½ | ¼ | 2 | 55½ | 2¼ | ¼ | 2 | 144 | | | 34 | |
| Super Truck 100 | 3 | ¼ | 1½ | 1 | V | 6 | 1¾ | 19 | 1½ | 42 | 1⅞ | F | 68 | 3 | ¼ | 2 | 51½ | 3 | ¼ | 2 | 144 | | | 34 | |
| Thomart Speed | 3 | ¼ | 1¼ | 1 | V | 9 | 1¼ | 7¼ | 1¼ | 36½ | 2 | F | 19¾ | 1¾ | ¼ | 4 | 19⅜ | 1¾ | ¼ | 4 | 102 | 60⅜ | 195 | 34 | 10 |
| Tiffin GW-1½ | 3 | ¼ | 1¼ | 1 | V | .... | .... | .... | .... | .... | .... | .... | 46 | 2 | ¼ | 1 | 46 | 2 | ¼ | 1 | 114 | 70 | .... | 35 | 11 |
| Tiffin MW-2½ | 3 | ¼ | 1¼ | 1¼ | V | .... | .... | .... | .... | .... | .... | .... | 52 | 2¼ | ¼ | 1 | 52 | 2¼ | ¼ | 1 | 138½ | 81 | .... | 32¾ | 11½ |
| Tiffin F-35-3½ | 3 | ¼ | 1¼ | 1¼ | V | .... | .... | .... | .... | .... | .... | .... | 58 | 2½ | ¼ | 1 | 58 | 2½ | ¼ | 1 | 151 | 94½ | .... | 35½ | 11 |
| Tiffin TW-5 | 4 | ¼ | 1½ | 1½ | V | .... | .... | .... | .... | .... | .... | .... | 68 | 3 | ¼ | 1 | 68 | 3 | ¼ | 1 | 156 | 89½ | .... | 38½ | 11½ |
| Tiffin UW-6 | 4 | ¼ | 1½ | 1½ | V | .... | .... | .... | .... | .... | .... | .... | 68 | 3 | ¼ | 1 | 68 | 3 | ¼ | 1 | 156 | 89½ | .... | 38½ | 11½ |
| Titan 2½ | 4 | ¼ | 1¼ | 1¼ | .... | .... | .... | .... | .... | .... | .... | .... | 14 | 3½ | ¼ | 4 | 9 | 5 | ¼ | 2 | 144 | .... | .... | 32 | .... |

# Replacement Table – Continued

| NAME, MODEL AND TONNAGE | ENGINE | | | | | | | | | | | | BRAKE LINING | | | | | | | FRAME | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Piston Rings | | Carburetor | | | Upper Hose | | Lower Hose | | Fan Belt | | | Service | | | | Emergency | | | | Length | | | Width | |
| | No. per Cyl. | Width | Outlet Diameter | Inlet Diameter | Vertical or Horizontal | Length | Width | Length | Width | Length | Width | Type | Length | Width | Thickness | No. of Pieces | Length | Width | Thickness | No. of Pieces | Back of Driver's Seat | Driver's Seat to Center of Rear Axle | Over All | Over All | Clearance at Lowest Point of Chassis |
| Titan 3½ | 4 | ¼ | 1½ | 1¾ | | | | | | | | | 15 | 3 | 1/16 | 4 | 14 | 6 | 1/16 | 2 | 144 | | | 32 | |
| Titan 5 | 4 | ¼ | 1½ | 1¾ | | | | | | | | | 15 | 3 | 1/16 | 4 | 14 | 6 | 1/16 | 2 | 144 | | | 34 | |
| Tower J–1½ | 3 | 1/16 | 1¼ | 1¼ | V | 7 | 1¾ | 11½ | 1⅜ | 33 | 1¼ | F | 11¾ | 3½ | ¼ | 4 | 11¾ | 3¼ | ¼ | 4 | 135¼ | 74½ | 224 | 32½ | 11½ |
| Tower H–2½ | 3 | 1/16 | 1¼ | 1¼ | V | 7 | 1¾ | 11½ | 1⅜ | 33 | 1¼ | F | 13 1/16 | 3½ | ¼ | 4 | 13 1/16 | 3½ | ¼ | 4 | 138¾ | 75¾ | 230 | 32½ | 10½ |
| Tower G–3½ | 3 | 1/16 | 1½ | 1½ | V | 7½ | 1¾ | 12 | 1⅜ | 36 | 1½ | F | 15⅝ | 3¾ | ¼ | 4 | 15⅝ | 3¾ | ¼ | 4 | 152 11/16 | 90 11/16 | 248 | 37 | 9½ |
| Traffic C–4000 | 3 | 1/16 | 1 | 1/16 | H | 10½ | 2 | 10½ | 2 | 41¼ | 1¼ | F | 43½ | 2½ | 1/16 | 2 | 38 | 1¾ | 1/16 | 2 | 120¾ | 67¾ | 213¾ | 42 | 10¾ |
| Traffic 6000 | 3 | 1/16 | 1 | 1/16 | H | 10½ | 2 | 10½ | 2 | 41¼ | 1¼ | F | 52 | 3 | 1/16 | 2 | 47 | 2 | 1/16 | 2 | 120¾ | 69¾ | 213⅜ | 34 | 11¾ |
| Traffic Speedboy | 3 | 1/16 | 1 | 1/16 | H | 10½ | 2 | 10½ | 2 | 41¼ | 1¼ | F | 43½ | 2½ | 1/16 | 2 | 38 | 1¾ | 1/16 | 2 | 86 | 53⅜ | 174 | 34 | 11¾ |
| Transport 15–1 | 3 | 1/16 | 1 | 1 | H | 10¾ | 2 | 13 | 2 | 40⅜ | 1¼ | F | 48 | 2½ | 1/16 | 2 | 46⅝ | 2¼ | 1/16 | 2 | 98 1/16 | | | 34 | |
| Transport 25–1½ | 3 | 1/16 | 1¼ | 1¼ | H | 12 | 2 | 12 | 2 | 36½ | 1 | F | 48½ | 2 | 1/16 | 2 | 46½ | 1½ | 1/16 | 2 | 100⅛ | | | 34 | |
| Transport 35–2 | 3 | 1/16 | 1 | 1 | H | 10¾ | 2 | 13 | 2 | 40⅜ | 1¼ | F | 11 | 3 | 1/16 | 2 | 46½ | 1½ | 1/16 | 2 | 116⅛ | | | 34 | |
| Transport 60–3½ | 4 | 1/16 | 1¼ | 1¼ | V | 9¼ | 2 | 10 | 1¼ | 32¾ | 2 | F | 10¼ | 3½ | 1/16 | 2 | 48½ | 2½ | 1/16 | 2 | 123⅛ | | | 34 | |
| Transport 75–5 | 4 | 1/16 | 1¼ | 1¼ | V | 12 | 2 | 16 | 1¼ | 35⅝ | 2 | F | 11⅞ | 3 | 1/16 | 2 | 58 | 2½ | 1/16 | 2 | 150⅛ | | | 36½ | |
| Transport 55–3 | 3 | 1/16 | 1¼ | 1¼ | V | 9 | 1½ | 16 | 1¼ | 31½ | 1¼ | F | 10¼ | 3½ | 1/16 | 2 | 48½ | 2½ | 1/16 | 2 | 123⅛ | | | 34 | |
| Traylor B | 4 | ¼ | 1 | .... | V | .... | .... | .... | .... | 38 | 1 | F | 50 | 2 | ¼ | 2 | 50 | 2 | ¼ | 2 | 117 | 75 | 204¾ | 34 | 10 |
| Traylor C | 4 | ¼ | 1¼ | .... | V | .... | .... | .... | .... | 36 | 2 | F | 50 | 2 | ¼ | 2 | 50 | 2 | ¼ | 2 | 122 | 73½ | 218¾ | 34 | 10⅝ |
| Traylor D | 4 | ¼ | 1¼ | .... | V | .... | .... | .... | .... | 36 | 2 | F | 56½ | 2¼ | ¼ | 2 | 56½ | 2¼ | ¼ | 2 | 142 | 76 | 241½ | 34 | 9¾ |
| Traylor F | 4 | ¼ | 1¼ | .... | V | .... | .... | .... | .... | 37 | 2 | F | 59 | 2½ | .... | 2 | 59 | 2½ | .... | 2 | 165 | 92½ | 273¼ | 35 | 11 |
| Triangle AA–1 | 3 | 1/16 | 1 | 1 | H | 17 | 2 | 17 | 2 | 34 | 1 | F | 22½ | 1¼ | 1/16 | 4 | 48 | 2½ | 1/16 | 2 | 94 | 53 | 177 | 35 | 10 |
| Triangle A–1½ | 3 | ¼ | 1 | 1 | V | 14 | 1¼ | 14½ | 1¼ | 39¼ | 1½ | F | 7 | 4 | 1/16 | 2 | 49 | 2 | 1/16 | 2 | 126 | 77½ | 225 | 34 | 12 |
| Triangle B 2½ | 3 | ¼ | 1¼ | 1¼ | V | 9 | 1½ | 18 | 1¼ | 39¼ | 1½ | F | 7 | 4 | 1/16 | 2 | 52 | 3 | 1/16 | 2 | 132 | 84½ | 217½ | 34 | 9 |
| Triangle C–2 | 3 | ¼ | 1 | 1 | V | 14 | 1¼ | 14½ | 1¼ | 39¼ | 1½ | F | 7 | 4 | 1/16 | 2 | 52 | 3 | 1/16 | 2 | 129 | 81 | 219⅛ | 34 | 12 |
| Ultimate A–2 | 4 | ¼ | 1¼ | 1⅝ | V | 11 | 2 | 8 | 1¼ | 34 | 2 | F | 20 | 2¼ | ¼ | 2 | 45 | 2 | ¼ | 2 | 126 | | | 32¾ | |
| Ultimate AJ2 | 4 | ¼ | 1¼ | 1⅝ | V | 11 | 2 | 8 | 1¼ | 34 | 2 | F | 20 | 2¼ | ¼ | 2 | 45 | 2 | ¼ | 2 | 126 | | | 32¾ | |
| Ultimate AJL–2 | 4 | ¼ | 1¼ | 1⅝ | V | 11 | 2 | 8 | 1¼ | 34 | 2 | F | 20 | 2¼ | ¼ | 2 | 45 | 2 | ¼ | 2 | 150 | | | 32¾ | |
| Ultimate AJXL | 4 | ¼ | 1¼ | 1⅝ | V | 12 | 2 | 8 | 1¼ | 34 | 2 | F | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... |
| Ultimate B–3 | 4 | ¼ | 1¼ | 1⅝ | V | 11 | 2 | 8 | 1¼ | 34 | 2 | F | 51 | 2½ | ¼ | 2 | 51 | 2¼ | ¼ | 2 | 144 | | | 32¾ | |
| Ultimate BL3 | 4 | ¼ | 1¼ | 1⅝ | V | 11 | 2 | 8 | 1¼ | 34 | 2 | F | 51 | 2¼ | ¼ | 2 | 51 | 2¼ | ¼ | 2 | 192 | | | 32¾ | |
| Ultimate D–5 | 4 | ¼ | 1¼ | 1⅝ | V | 11 | 2 | 8 | 1¼ | 34 | 2 | F | 51 | 2¼ | ¼ | 2 | 51 | 2¼ | ¼ | 2 | 180 | | | 37½ | |
| Union FW–2½ | 3 | ¼ | 1¼ | 1¼ | V | 20 | 1¾ | 19½ | 1½ | 37¾ | 2 | F | 26 | 4½ | ¼ | 1 | 52 | 3 | ¼ | 1 | 133½ | 77¾ | 224 | 32 | 11½ |
| Union H–4 | 3 | ¼ | 1¼ | 1¼ | V | 20 | 1¾ | 19½ | 1½ | 37¾ | 2 | F | 56¾ | 3½ | 1/16 | 1 | 32 | 4½ | 1/16 | 1 | 157½ | | | 34 | |
| Union HW–4 | 3 | ¼ | 1¼ | 1¼ | V | 20 | 1¾ | 19½ | 1½ | 37¾ | 2 | F | 26 | 4¼ | ¼ | 1 | 24 | 4 | ¼ | 2 | 157½ | 98 | 264 | 34 | 13½ |
| United H Spec | 4 | ¼ | 1 | 1 | H | 16 | 2 | 19 | 2 | 32 | 1¼ | F | 49 | 2½ | 1/16 | 2 | 49 | 2½ | 1/16 | 2 | .... | .... | .... | .... | .... |
| United 30, 35, 50 | 3 | ¼ | 1¼ | 1¼ | H | 7 | 1¾ | 13 | 1¼ | 34 | 1½ | F | 49 | 2½ | 1/16 | 2 | 49 | 2½ | 1/16 | 2 | .... | .... | .... | .... | .... |
| United C | 4 | ¼ | 1¼ | 1 11/16 | H | 7 | 2½ | 7 | 2½ | 37¼ | 2 | F | 62 | 3 | 1/16 | 1 | 58 | 2½ | 1/16 | 1 | .... | .... | .... | .... | .... |
| United 1½ | 4 | ¼ | 1 | 1 1/16 | H | 15 | 2½ | 16 | 1½ | 37½ | 2 | F | 48 | 2 | 1/16 | 1 | 48 | 1½ | 1/16 | 1 | 120 | .... | .... | 33 | .... |
| United 2½ | 4 | ¼ | 1¼ | 1 1/16 | H | 7 | 2½ | 12 | 1½ | 37½ | 2 | F | 49 | 3 | 1/16 | 1 | 49 | 2½ | 1/16 | 1 | Opt | .... | .... | 33 | .... |
| United 3½ | 4 | ¼ | 1¼ | 1 1/16 | H | 7 | 2½ | 7 | 1½ | 37½ | 2 | F | 62 | 3 | 1/16 | 1 | 58 | 2½ | 1/16 | 1 | Opt | .... | .... | 34 | .... |
| U.S.U.–1¼ | 4 | 1/16 | 1 | 1/16 | V | 11½ | 1¾ | 11½ | 1¼ | 33 | 1¼ | F | 50½ | 2½ | 1/16 | 2 | 20 | 1½ | 1/16 | 4 | 108 | 70 | 195 | 32 | 9¼ |
| U.S.N.–1½ | 3 | M | 1 | 1/16 | H | 11½ | 2 | 9 | 1¼ | 37 | 1¼ | F | 50½ | 2½ | 1/16 | 2 | 46½ | 1½ | 1/16 | 2 | 120 | 82 | 211 | 34 | 11 |
| U.S.N.W.–23–1½–2 | 4 | 1/16 | 1 | 1/16 | H | 10¾ | 1¾ | 11½ | 1¼ | 33 | 1¼ | F | 21 | 2¼ | ¼ | 4 | 21 | 2¼ | ¼ | 4 | 120 | 82 | 211 | 34 | 11 |
| U.S.R.–2½–3 | 3 | 1/16 | 1¼ | 1/16 | V | 10 | 1¼ | 10 | 1¼ | 35 | 1¼ | F | 21 | 2¼ | ¼ | 4 | 21 | 2¼ | ¼ | 4 | 144 | 94 | 241 | 34 | 9¼ |
| U.S.S.–3½–4 | 3 | ¼ | 1¼ | ¼ | V | 9 | 1½ | 8 | 1½ | 37 | 1¼ | F | 50 | 2½ | ¼ | 2 | 50 | 2½ | ¼ | 2 | 156 | 104 | 258 | 36 | 9 |
| U.S.T. 5–7 | 4 | ¼ | 1½ | ¼ | V | 15 | 2 | 13 | 1½ | 38¾ | 2 | F | 62 | 3 | ¼ | 4 | 33 | 4 | ¼ | 1 | 168 | 103 | 278 | 36 | 10½ |
| U.S.S.Spec. 4–5 | 3 | ¼ | 1¼ | ¼ | V | 9 | 1½ | 8 | 1½ | 37 | 1¼ | F | 21 | 4 | ¼ | 4 | 21 | 3 | ¼ | 4 | 156 | .... | .... | 36 | .... |
| Velie 46–1½ | 3 | M | 1 | 1/16 | V | 9 | 2 | 12 | 1¼ | 41⅜ | ¾ | V | 54 1/16 | 2½ | 1/16 | 2 | 52½ | 2¼ | 1/16 | 2 | 120 | .... | 214½ | 31 | 14 |
| Velie 53–2½ | 3 | 1/16 | 1¼ | ⅝ | V | 5½ | 1⅝ | 12½ | 1¼ | 40½ | 2 | F | 54 1/16 | 2½ | 1/16 | 2 | 52½ | 2¼ | 1/16 | 2 | 120 | .... | .... | .... | 31 |
| Vim 50–½–¾ | 3 | .... | 1 | .... | .... | .... | .... | .... | .... | 33⅜ | .... | F | 48 | .... | .... | 2 | 46⅝ | .... | .... | 2 | .... | .... | 160 | .... | .... |
| Walker M2 | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | 43 | 2¼ | 1/16 | 2 | 14 | 1¾ | 1/16 | 4 | 90 | .... | .... | 32 | .... |
| Walker P3½ | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | 53¼ | 3 | ¼ | 2 | 19¼ | 2½ | ¼ | 4 | 140 | .... | .... | 35 | .... |
| Walker N5 | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | 53¼ | 3 | ¼ | 2 | 19¼ | 2½ | ¼ | 4 | 162 | .... | .... | 35 | .... |
| Walker 22 | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | 45½ | 2½ | 1/16 | 2 | 16 | 2 | 1/16 | 4 | 99 | .... | .... | 32 | .... |
| Walker 42 | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | 53¼ | 3 | ¼ | 2 | 19¼ | 2½ | ¼ | 4 | 120 | .... | .... | 32 | .... |
| Walker Johnson A–2 | 3 | 1/16 | 1 | 1 | V | 11½ | 2 | 7½ | 1¾ | 37 | 1 | F | 12 | 3¼ | ¼ | 4 | 12 | 3¼ | ¼ | 4 | 117 | .... | .... | 32 | .... |
| Walker Johnson B3 | 4 | ¼ | 1¼ | 1¼ | V | 10 | 2 | 8 | 1¼ | 33½ | 1¼ | F | 13 | 3½ | ¼ | 4 | 13 | 3½ | ¼ | 4 | 133 | .... | .... | 32 1/16 | .... |
| Walter S–5 | 3 | ¼ | ½ | 2 | V | 10 | 1½ | 18 | 1½ | 39 | 1½ | F | 15 | 5 | ¼ | 4 | 57 | 2½ | ¼ | 2 | 150 | .... | .... | 36 | .... |
| Ward LaFr'e 2B–2½–3½ | 3 | ¼ | 1¼ | 1½ | V | 7 | 1½ | 16 | 1½ | 41½ | 1½ | F | 13 | 3½ | ¼ | 4 | 13 | 3½ | ¼ | 4 | 137½ | .... | .... | 33 | .... |
| Ward LaFrance 4A–3½–5 | 3 | ¼ | 1¾ | 1¾ | V | 8½ | 1½ | 18 | 1½ | 41½ | 1½ | F | 15½ | 3¾ | ¼ | 4 | 15½ | 3¾ | ¼ | 4 | 170 1/16 | .... | .... | 37 | .... |
| Ward LaFrance 5A–5–7 | 3 | ¼ | 1½ | 1¾ | V | 9¼ | 1½ | 18 | 1½ | 41½ | 1½ | F | 18 | 4 | ¼ | 4 | 18 | 4 | ¼ | 4 | 170 1/16 | .... | .... | 37 | .... |
| Watson D–1 | 3 | ¼ | 1 | 1⅜ | V | 12½ | 1¾ | 12 | 1¼ | 40 | 1¼ | F | 10 1/16 | 2½ | ¼ | 4 | 10 1/16 | 2½ | ¼ | 4 | 99 | 60 | 186 | 30⅛ | 11 |
| Watson N–3½ | 3 | 1/16 | 1¼ | 1½ | V | 16½ | 1¼ | 3 | 1¼ | 34 | 1¼ | F | 62 | 2½ | ¼ | 2 | 47 | 2½ | ¼ | 2 | 147 | .... | .... | 37 | .... |
| Watson U–5 | 3 | 1/16 | 1¼ | 1½ | V | 16½ | 1¼ | 3 | 1¼ | 38½ | 1¼ | F | 15½ | 3¼ | ¼ | 4 | 15½ | 3¾ | ¼ | 4 | .... | .... | .... | 36 | .... |
| White 15–A Taxi | 3 | ¼ | 1 1/16 | 1 11/16 | V | 7¼ | 1 | 6½ | 1¼ | 38 | 1¼ | F | 46 | 2½ | 1/16 | 2 | 41 1/16 | 2½ | 1/16 | 2 | 55¾ | .... | .... | 36 | .... |
| White 15, ¾ | 3 | ¼ | 1 1/16 | 1 11/16 | V | 7¼ | 1 | 6½ | 1¼ | 38 | 1¼ | F | 46 | 2½ | 1/16 | 2 | 41 1/16 | 2½ | 1/16 | 2 | 76½ | .... | .... | 34 | .... |
| White 15–45, ¾ | 3 | ¼ | 1 1/16 | 1 11/16 | V | 13½ | 1½ | 12 | 1½ | 42¼ | 2 | F | 53⅞ | 2½ | 1/16 | 2 | 50⅞ | 2½ | 1/16 | 2 | 85⅝ | 46 | 180 | 34 | 10¾ |
| White 20, 2 | 3 | ¼ | 1 1/16 | 1 11/16 | V | 7¼ | 1 | 7¼ | 1¼ | 38 | 1¼ | F | 55½ | 3½ | ¼ | 2 | 50⅞ | 3½ | 1/16 | 2 | 146 | .... | .... | 34 | .... |
| White 20–D, 2 | 3 | ¼ | 1 1/16 | 1 11/16 | V | 7¼ | 1 | 7¼ | 1¼ | 38 | 1¼ | F | 55½ | 3½ | ¼ | 2 | 50⅞ | 3½ | 1/16 | 2 | 98 | .... | .... | 34 | .... |
| White 20–45, 2 | 3 | ¼ | 1 1/16 | 1 11/16 | V | 13½ | 1½ | 12 | 1½ | 42¼ | 2 | F | 11⅜ | 4 | 1/16 | 4 | 50⅞ | 3½ | 1/16 | 2 | 107½ | 70 | 202 | 34 | 9 |
| White 50, Bus | 3 | ¼ | 1 1/16 | 1 11/16 | V | 13½ | 1½ | 12 | 1½ | 42¼ | 2 | F | 11⅜ | 4 | 1/16 | 4 | 50 1/16 | 3½ | 1/16 | 2 | 168 | .... | .... | 70 | .... |
| White 40, 3½–45, 5 | 3 | ¼ | 1 1/16 | 1 11/16 | V | 13½ | 1½ | 12 | 1½ | 42¾ | 2 | F | 11⅜ | 4 | 1/16 | 4 | 25⅞ | 5 | 1/16 | 4 | 164 | 106½ | 267 | 42 1/16 | 13 |
| White 40–D, 3½–45–D, 5 | 3 | ¼ | 1 1/16 | 1 11/16 | V | 13½ | 1½ | 12 | 1½ | 42¾ | 2 | F | 11⅜ | 4 | 1/16 | 4 | 25 1/16 | 5 | 1/16 | 4 | .... | 106½ | 267 | 42 1/16 | 13 |
| Wilcox AA–1 | 3 | ¼ | 1 | .... | .... | .... | .... | .... | .... | .... | .... | .... | 47 1/16 | 2½ | 1/16 | 2 | 33¼ | 2½ | 1/16 | 2 | 96 | .... | .... | 34 | .... |
| Wilcox B–1½ | 3 | ¼ | 1¼ | .... | .... | .... | .... | .... | .... | .... | .... | .... | 47 1/16 | 2½ | 1/16 | 2 | 33¼ | 2½ | 1/16 | 2 | 132 | .... | .... | 33 | .... |
| Wilcox C–2½ | 3 | ¼ | 1¼ | .... | .... | .... | .... | .... | .... | .... | .... | .... | 57½ | 2½ | ¼ | 2 | 42½ | 2½ | 1/16 | 2 | 141 | .... | .... | 33 | .... |
| Wilcox E–3½ | 3 | ¼ | 1¼ | .... | .... | .... | .... | .... | .... | .... | .... | .... | 57½ | 2½ | ¼ | 2 | 42½ | 2½ | ¼ | 2 | 156 | .... | .... | 33 | .... |
| Wilcox F–5 | 3 | ¼ | 1½ | .... | .... | .... | .... | .... | .... | .... | .... | .... | 69⅜ | 3½ | ¼ | 2 | 52 | 3½ | ¼ | 2 | 148½ | .... | .... | 36 | .... |
| Wilson 1½ | 4 | 1/16 | .... | 1 | .... | .... | .... | .... | .... | .... | 1¼ | .... | 39½ | 1¾ | 1/16 | 2 | 39½ | 1¾ | 1/16 | 2 | 132 | 72 | 229 | 33 | 10½ |
| Wilson 2½ | 4 | 1/16 | .... | 1¼ | .... | .... | .... | .... | .... | .... | 1¼ | .... | 13¼ | 3½ | 1/16 | 4 | 13¼ | 3½ | 1/16 | 4 | 144 | 90 | 229 | 33 | 9⅝ |
| Wilson 3½ | 4 | 1/16 | .... | 1½ | .... | .... | .... | .... | .... | .... | 1½ | .... | 16 | 3¾ | 1/16 | 4 | 16 | 3¾ | 1/16 | 4 | 156 | 95 | 245 | 37 | 9½ |
| Wilson 5 | 4 | 1/16 | .... | 1½ | .... | .... | .... | .... | .... | .... | 1½ | .... | 18 | 4 | 1/16 | 4 | 18 | 4 | 1/16 | 4 | 156 | 95 | 245 | 37 | 10⅛ |
| Winter & Hirsch K–2½ | 4 | ¼ | 1⅝ | 1½ | V | 12 | 1½ | 14 | 1½ | 48 | 1½ | F | 13½ | 3½ | ¼ | 4 | 13½ | 3½ | ¼ | 4 | 144 | 96 | 252 | 32 | 9 |
| Winter & Hirsch L–3½ | 4 | ¼ | 1⅝ | 1½ | V | 12 | 1½ | 14 | 1½ | 48 | 1½ | F | 16 | 3¾ | ¼ | 4 | 16 | 3¾ | ¼ | 4 | 196 | 118 | 288 | 36 | 9 |
| Winther 751–1 | 3 | ¼ | 1 | .... | H | 15¾ | 2 | 17 | 2 | 36 1/16 | 1 | F | 42 | 2 | 1/16 | 2 | 24 | 2 | 1/16 | 1 | 102 | .... | .... | 30 | 12½ |
| Winther 39–1½ | 3 | ¼ | 1¼ | .... | V | 10 | 1¾ | 4⅛ | 1½ | 33¼ | 1¼ | F | 50 | 2¼ | ¼ | 2 | 22½ | 2¼ | ¼ | 1 | 120 | .... | .... | 30 | 12 |
| Winther 430–1½ | 3 | ¼ | 1¼ | .... | V | 11¼ | 1½ | 11½ | 1¼ | 30⅝ | 1½ | F | 50 | 2¼ | ¼ | 2 | 22½ | 2¼ | ¼ | 1 | 120 | .... | .... | 30 | 12 |
| Winther 450 2½ | 3 | ¼ | 1¼ | .... | V | 11½ | 1½ | 6½ | 1½ | 37½ | 1¼ | F | 52 | 3 | ¼ | 2 | 22½ | 2¼ | ¼ | 2 | 120 | .... | .... | 30 | 13 |
| Winther 51–2½ | 3 | ¼ | 1¼ | .... | V | 17⅛ | 1¾ | 8 | 1½ | 42½ | 2 | F | 52 | 3 | ¼ | 2 | 50 | 2¼ | ¼ | 2 | 144 | .... | .... | 33 | 14 |
| Winther 70–3½ | 3 | ¼ | 1¼ | .... | V | 17⅛ | 1¾ | 8 | 1½ | 42½ | 2 | F | 62 | 3 | ¼ | 2 | 60 | 2½ | ¼ | 2 | 156 | .... | .... | 33 | 14 |
| Winther 109–5 | 3 | ¼ | 1½ | .... | V | 21½ | 1¾ | 8 | 1½ | 42½ | 2 | F | 93 | 2¼ | ¼ | 2 | 93 | 2¼ | ¼ | 2 | 156 | .... | .... | 33 | 10 |
| Winther 140–7 | 3 | ¼ | 1½ | .... | V | 12 | 1¾ | 6 | 1¾ | 42¼ | 2 | F | 93 | 2¼ | ¼ | 2 | 93 | 2¼ | ¼ | 2 | 156 | .... | .... | 34 | 10 |
| Wisconsin 2 (Loganville) | 3 | 1/16 | 1¼ | 1¼ | H | 17 | 2 | 17 | 2 | 34 | ¼ | F | 58 | 2½ | 1/16 | 2 | 56½ | 2¼ | 1/16 | 2 | 114 | .... | .... | 34 | .... |
| Wisconsin 2½ (Loganville) | 3 | 1/16 | 1¼ | 1¼ | V | 12 | 1½ | 10 | 1¼ | 40 | ¾ | V | 58 | 2½ | 1/16 | 2 | 56½ | 2¼ | 1/16 | 2 | 120 | .... | .... | 32 | .... |
| Witt-Will N–1½ | 3 | 1/16 | 1¼ | 1¼ | V | 8 | 1½ | 12 | 1¼ | 31 | 1¼ | F | 48 | 3¼ | ¼ | 4 | 48 | 3¼ | ¼ | 4 | Opt | 80½ | 223 | 32 | 10 |
| Witt-Will P–2 | 3 | 1/16 | 1¼ | 1¼ | V | 8 | 1½ | 12 | 1¼ | 41 | 1½ | F | 52 | 3½ | ¼ | 4 | 52 | 3½ | ¼ | 4 | Opt | 80½ | 223 | 32 | 10 |
| Yellow Cab M22–¾ | 3 | 1/16 | 1 | 1½ | V | 7½ | 2 | 9⅝ | 2 | 38½ | ⅝ | V | 49 | 2½ | ¼ | 2 | 45 | 2½ | ¼ | 2 | 60 | .... | .... | 43 | .... |
| Yellow Cab M42–1¼ | 3 | 1/16 | 1 | 1½ | V | 7½ | 2 | 9⅝ | 2 | 38½ | ⅝ | V | 11 | 3 | ¼ | 4 | 11 | 3 | ¼ | 4 | 92 | .... | .... | 32 | .... |

# KEY OF ABBREVIATIONS

**Note: Numerals on This Page Correspond With Numerals at Head of Specification Columns on Page Following. In All Specifications—O, Own; Op or Opt, Optional**

**Engine:**
Beav—Beaver
Buda
Cont—Continental
GBS—Golden, Belknap & Swartz
Gr-B—Gray-Beal
Her—Hercules
Hin—Hinkley
1 H-Sp—Herschell-Spillman
LeR—Le Roi
Lib—Liberty
LMF—Light Mfg. & Fdy.
Lyco—Lycoming
Mid—Midwest
Sup—Supreme
Wau—Waukesha
Wei—Weidely
Wis—Wisconsin

**Valve Arrangement:**
H—Overhead
2 L—ELL-Head
S—Sleeve
T—TEE-Head

**Radiator (Make):**
BW—B & W
Brm—Brenem
Bus—Bush
Can—Candler
Chic—Chicago
Eag—Eagle
EM—English-Mersick
Eur—Eureka
Fed—Fedders
Flex—Flexo
GO—G. & O.
Har—Harrison
Hoo—Hooven
3 Idl—Ideal
Jam—Jamestown
Kue—Kuenz
Liv—Livingston
Lng—Long
McC—McCord
May—Mayo
Mod—Modine
Per—Perfex
R-T—Rome-Turney
SJ—Shotwell Johnson
Spar—Sparton
Spec—Special
Spli—Splitex
Stn—Standard
Whe—Wheeler

**Lubrication:**
4 FS—Force and Splash
F—Force Feed
S—Splash

**Carburetor:**
Bent—Bennett
Cart—Carter
Eag—Eagle
Ens—Ensign
Hol—Holly
John—Johnson
5 King—Kingston
Mar—Marvel
Mas—Master
Mill—Miller
Rayf—Rayfield
Scoe—Scoe
Strm—Stromberg
Sheb—Schebler
Stew—Stewart
Till—Tillotson
Zen—Zenith

**Fuel Feed:**
6 G—Gravity
P—Pressure
V—Vacuum

**Governor:**
Con—Continental
Dup—Duplex
Han—Handy
Her—Hercules
7 Hin—Hinkley
McC—McCanna
Mon—Monarch
Phar—Pharo
Pier—Pierce
Sim—Simplex
Wau—Waukesha

**Ignition System:**
Amr—American Swiss
Apo—Apollo
AtK—Atwater Kent
AuL—Auto-Lite
Ber—Berling
Bos—Bosch
Con—Connecticut
Del—Delco
Eis—Eisemann
Kin—Kingston
8 KW—K. W. Ignition Co.
Lor—Louraine
NE—North East
POL—Prest-O-Lite
Rm—Remy
RBo—Robert Bosch
Sim—Simms
Spl—Splitdorf
Tea—Teagle
Wag—Wagner
Wes—Westinghouse

**Engine Starter:**
AC—Allis-Chalmers
AK—Atwater Kent
AuL—Auto-Lite
Bj—Bijur
Bos—Bosch
Del—Delco
Dy—Dyneto
9 GD—Gray & Davis
LN—Leece-Neville
NE—North East
Rm—Remy
**Sim—Simms**
USL—U. S. L.
Wes—Westinghouse
Wg—Wagner

**Clutch (Make):**
B.B—Borg & Beck
B-Li—Brown-Lipe
Covt—Covert
Det—Detlaff
DG—Detroit Gear & Mach.
Dod—Dodge
Full—Fuller
10 Hart—Hartford
Hoos—Hoosier
HS—Hele-Shaw
M-E—Merchant & Evans
Mun—Muncie
T-D—Twin Disc
W-Gr—Warner Gear

**Gearset:**
B-Li—Brown-Lipe
Cott—Cotta
Covt—Covert
11 Det—Detroit
Dod—Dodge
Dun—Dundore
Durs—Durston
Full—Fuller
G-Le—Grant Lees
MM—Mechanics Mach. Co.
Mun—Muncie
W-C—Warner Corporation
W-Gr—Warner Gear

**Location of Gearset:**
A—Amidships
J—Unit with jackshaft
12 R—Rear
U—Unit with engine

**Universal:**
Acm—Acme
Arv—Arvac
Bld—Blood-Brothers
Det—Detroit
Hart—Hartford
KB—Kinsler-Bennett
MM—Mechanics
M-E—Merchant & Evans
Nor—Norwalk
Pet—Cleveland Universal
13 Pick—Pick
Sned—Snead
Spic—Spicer
Ster—Sterling
Ther—Thermoid
UM—Universal Machine
UP—Universal Products
Var—Varied

**Springs:**
Am—Am. Auto Parts
Arm—Armstrong
Bea—Beans
Cham—Champion
Del—Delany
Det—Detroit
GC—Garden City
Har—Harvey
IC—Iron City
Kal—Kalamazoo
Lah—Laher
Lig—Liggett
Mar—Maremont
14 Math—Mather
Mer—Merrill
Nat—National
Pen—Penn
Per—Perfection
P.S.—Point Spring Co.
Row—Rowland
Shel—Sheldon
SP—Spring Perch
Stan—Stan-Par
SS—Standard Steel
Ster—Sterling
Tut—Tuthill
US—United States
Vul—Jenkins Vulcan

**Front Axle**
Col—Columbia
Cont—Continental
Dod—Dodge
Fli—Flint
15 Sals—Salisbury
Sav—Savage
Shel—Sheldon
Shul—Shuler
Stan—Stan-Par
Tim—Timken
Torb—Torbensen
Vul—Vulcan

**Final Drive:**
B—Bevel Gear
C—Chain
I—Internal Gear
16 P—Spur
R—Double Reduction
S—Spiral Bevel
W—Worm

**Rear Axle (Make):**
Col—Columbia
Clark
Dun—Dunkirk
Eat—Eaton
Fli—Flint
Huck—Huck
IrM—Iron Mt.
LM—L M Axle
17 Russ—Russel
Sals—Salisbury
Shel—Sheldon
Stn—Standard Parts
Thom—Thomson
Tim—Timken
Torb—Torbensen
Vul—Vulcan
Walk—Walker
Wis—Wisconsin

**Rear Axle (Type):**
F—Floating
18 D—Dead
½—Semi-Floating
¾—¾-Floating

**Steering Gear:**
CAS—C. A. S. Products Co.
Dit—Ditwiler
Dod—Dodge
Gem—Gemmer
Hin—Keystone Hindley
19 Jac—Jacox
Lav—Lavine
M-P—Muncie Products
Ros—Ross
Sag—Saginaw Products Co.
Woh—Wohlrab

**Wheels:**
Arc—Archibald
AuW—Auto Wheel
Bim—Bimel
Bud—Budd
Cla—Clark
C&M—Crane & McMahon
Day—Dayton
Det—Detroit
Dis—Disteel
E&O—Eberly & Oris
Hay—Hayes
Hoo—Hoopes Brothers
Imp—Imperial
Ind—Indestructible
Jon—Jones
20 Kel—Kelsey
MM—Michigan Malleable Iron Co.
Mot—Motor Wheel
Mun—Muncie Wheel
Mut—Mutual
Nor—Northern
Pru—Prudden
Roy—Royer
Sch—Schwartz
Smi—Smith
Sta—Stanwell
StM—St. Mary
Stn—Standard
Wal—Walker
Way—Wayne
W-L—Waterhouse & Lester

**Rim Equipment:**
Bak—Baker
Cle—Cleveland
Det—Detroit
Fir—Firestone
21 Gdy—Goodyear
Hay—Hayes
Jac—Jackson
Jax—Jaxon
Kel—Kelsey
Mil—Miller

# Commercial Car Specifications—Corrected Monthly

**The Specifications, Chassis Prices, Etc., Are Corrected Each Month From Data Supplied Direct by the Makers. Gasoline Tractor-Trucks Will be Found at the End of Gasoline Commercial Cars**

**See Preceding Table for Replacement Data. Truck Frame Dimensions Are Included in Same Table**

*(Where prices are not given it is because we have been unable to get them from authoritative sources)*

* This symbol in the wheelbase column indicates that more than one wheelbase is furnished

| TRADE NAME AND MODEL | Chassis Price | ENGINE DETAILS: Make and Model Number (4 cylinder unless otherwise noted.) | Bore and Stroke | N.A.C.C. Horsepower | Valve Arrange't | Radiator (Make) | Lubrication | Carburetor | Fuel Feed | Governor (Make) | Ignition System | Engine Starter | Clutch (Make) | GEARSET: Make and Model Number | Location | Speeds | Universal (Make) | Springs (Make) | FRONT AXLE and Model Number | REAR AXLE: Final Drive | Make and Model Number | Type | Total Gear Reduction in High | Total Gear Reduction in Low | Steering Gear (Make) | TIRES, WHEELS, RIMS: *Pneumatic †Dual ‡Solid — Front | Rear | Wheels (Make) | Rim Equipment | Chassis Weight (Stripped) | Wheelbase |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 1 | | | | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | | 13 | 14 | 15 | 16 | 17 | 18 | | | 19 | | | 20 | 21 | | |
| **1000 Pounds** | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Chevrolet, Sup. LD | 510 | Own | 3 11/16x4 | 21.7 | ... | Har | FS | Zen | G | ..... | Rm | Rm | Own | ..... | U | 3 | Own | SS | ..... | S | ..... | 1/2 | 3.77 | 12.52 | M-P | 30x3 1/2 | 30x3 1/2 | Hay | Jax | 1390 | 103 |
| Dort | 685 | Lyco K | 3 1/2x5 | 19.6 | L | Fed | S | Cart | V | ..... | Con | Bos | Own | Own | U | 3 | MM | Lig | Fli 2FA 803 | S | Fli 2FA 105 | 3/4 | 4.66 | 15.13 | Sag | 31x4* | 31x4* | Hay | Jac | 2015 | 106 |
| Overland | 425 | Own | 3 3/8x4 | 18.2 | L | Own | FS | Till | G | ..... | AuL | AuL | B.B. | Own | U | 3 | Own | Own | Own | B | Own | 1/2 | 4.5 | 17.68 | Own | 30x3 1/2 | 30x3 1/2 | Hay | Hay | 1550 | 100 |
| **1500 Pounds** | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| American LaFrance 1R | .... | Own | 4 1/4x5 | 28.9 | L | Bus | FS | Strm | G | ..... | .... | Wes | Own | Own | A | 3 | Own | Mer | Own | B | Own | ... | 4.7 | 25.3 | Own | 33x5* | 33x5* | Hoo | ..... | ..... | 139 1/2 |
| Buick | .... | Own SD-4 | 3 3/4x4 3/4 | 18.2 | ... | Own | FS | Mar | V | ..... | Del | Del | Own | Own | U | 3 | Own | Opt | ..... | S | Own | 3/4 | 4.66 | 13.05 | Jac | 31x4 | 31x4 | ..... | Jac | 2030 | 109 |
| Chevrolet G | 575 | Own | 3 11/16x4 | 21.7 | H | Har | FS | Zen | G | ..... | Rm | Rm | Own | ..... | ... | 3 | Own | SS | ..... | S | ..... | 1/2 | 5.42 | 18 | M-P | 31x4* | 34x4 1/2* | Hay | Jax | 1825 | 120 |
| Commerce 9 | .... | Cont N | 3 3/4x5 | 22.5 | L | Lng | S | Zen | V | ..... | Eis | Bj | DG | Det | U | 3 | Spic | Am | ..... | B | Sals | 3/4 | 5.73 | 18.33 | Jac | 32x4 1/2 | 32x4 1/2 | Bud | ..... | 3100 | 127 |
| Corbitt S Speed Truck | 1250 | H-Sp 7000 | 3 1/2x5 | 19.8 | L | Own | FS | Strm | V | ..... | Eis | Dy | B-Li | B-Li 30 | U | 3 | Hart | Shel | Shel 33FA500 | W | Shel W1001 | 1/2 | 6 | 20 | Ros | 34x4 1/2* | 34x4 1/2* | Bim | Fir | 3420 | 130 |
| Dodge Brothers | 730 | Own | 3 7/8x4 1/2 | 24 | L | McC | FS | Stew | V | ..... | NE | NE | Own | Own | U | 3 | Own | Own | Own | S | Own | 1/2 | 4.16 | 17.4 | Own | 32x4* | 32x4* | Kel | Kel | 1992 | 114 |
| Master 11 | .... | Buda WTU | 3 3/4x5 1/8 | 22.5 | L | Zen | ... | Zen | G | ..... | Wes | Wes | Full | Full | U | 3 | ..... | Det | ..... | B | Tim | 1/2 | 5.5 | 22 | Ros | 33x5 | 33x5 | ..... | Fir | 3200 | 132 |
| Ogden A2 | .... | Cont N | 3 1/2x5 | 19.6 | L | Chic | FS | Zen | V | ..... | Spl | .... | B-Li | B-Li 30 | U | 3 | M-E | Tut | Tim 1250 | W | Tim 6250 | 1/2 | 6.2 | ..... | Ros | 34x5 | 34x5 | Stn | .... | 3100 | 125 |
| Perfection A | 1245 | Cont N | 3 1/2x5 | 19.6 | L | Own | FS | Zen | V | ..... | Rm | Rm | B.B. | Own AAU | U | 3 | Ther | Own | Tim 1216-B | B | Tim 5311 | 1/2 | 5 | 22.3 | Lav | 32x4 1/2 | 32x4 1/2 | Bim | Mil | 2500 | 128 |
| Rainier R-31 | 1970 | Cont N | 3 3/4x5 | 22.5 | L | Har | FS | Zen | V | Mon | Eis | .... | B-Li | B-Li 30 | U | 3 | Hart | Per | Tim 1250 | W | Tim 6250 | 1/2 | 6.75 | 22.5 | Lav | 35x5* | 35x5* | Jon | Fir | 2500 | 125 |
| Ruggles 15 | 895 | H-Sp. 30 | 3 1/2x5 | 19.6 | L | Per | FS | Zen | G | ..... | Bos | Bos | M-E | Full J | U | 3 | Spic | Det | Col 30000 | 3/4 | Col 30000 | 3/4 | 5.81 | 19.7 | Jac | 32x4 1/2 | 32x4 1/2 | Nor | Fir | 2300 | 122 |
| Service 12 | .... | Mid 409 | 3 3/4x4 1/2 | 16.9 | H | Lng | F | Strm | G | ..... | Rm | Rm | Hoos | Det DY 208 | U | 3 | M-E | Shel | Own E-1-558 | B | Tim 5311 | 1/2 | 6.88 | 22.1 | Ros | 32x4 1/2* | 32x4 1/2* | Bim | Fir | 2720 | 128 |
| Stoughton C | 1095 | ..... | ..... | 18.2 | H | Chic | F | Zen | V | ..... | Rm | Rm | Det | Own D-21 | U | 3 | Ther | Own | Col 5108 | S | Col 52003 | 3/4 | 5.87 | 20 | Lav | 34x4 1/2* | 34x4 1/2* | Roy | Gdy | 2480 | 131 |
| Vim 50 | 995 | Own | 4 x5 | 25.6 | L | McC | F | Zen | G | ..... | Wes | Wes | Own | Own | U | 3 | MM | Shel | Own | B | Own | ... | 4.7 | ..... | Own | 32x4* | 32x4* | ..... | Fir | 2600 | 108 |
| White 15 | 2400 | Own GK | 3 3/4x5 1/2 | 22.5 | L | ..... | FS | Zen | G | ..... | ..... | ..... | Own | Own TBC | A | 4 | Own | ..... | Own | B | Own | 1/2 | 3.99 | 18.6 | Own | 34x5* | 34x5* | ..... | Fir | 3225 | 133 |
| Yellow Cab..M-22-3/4 | 1590 | Cont V-4 | 3 3/4x5 | 22.5 | L | Lng | FS | Zen | G | ..... | Bos | ..... | B-Li | ..... | U | 3 | Spic | Math | ..... | B | ..... | ... | 4.9 | 16.31 | Gem | 33x4 1/2* | 33x4 1/2* | Stn | Fir | 2400 | 117 |
| **1 Ton** | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Acme 20 | .... | Cont N | 3 3/4x5 | 22.5 | L | GO | FS | Rayf | V | Dup | Eis | Bos | B.B. | Cott AAU | U | 3 | Bld | Det | Tim 1250 | W | Tim 6250 | 1/2 | 6.75 | 27 | Ros | 35x5* | 35x5* | Bim | ..... | 3050 | 129 |
| Autocar F | 2200 | Own 2 | 4 3/4x4 1/2 | 18 | L | Own | S | Strm | G | ..... | ..... | ..... | Own | Own | A | 3 | Spic | Del | Own | R | Own | F | 8.3 | 33.2 | Ros | 34x4 | 34x6 | Hoo | ..... | 3800 | 97 |
| Autocar G | 2300 | Own 2 | 4 3/4x4 1/2 | 18 | L | Own | S | Strm | G | ..... | ..... | ..... | Own | Own | A | 3 | Spic | Del | Own | R | Own | F | 8.3 | 33.2 | Ros | 34x4 | 34x6 | Hoo | ..... | 3900 | 120 |
| Avery | .... | Own 6 | 3 x4 | 21.6 | L | Own | S | Strm | V | Own | KW | Wis | Own | Own | U | 3 | Pet | Math | Own | I | Own 2-L | D | 8 | 26.66 | Ros | 34x5* | 34x5* | StM | Gdy | 2800 | 129 |
| Bell M | 1495 | Buda | 3 5/8x5 1/2 | 21 | L | Chic | F | Zen | V | ..... | Eis | ..... | B.B. | ..... | U | 3 | Spic | Det | ..... | W | ..... | ... | 7.2 | ..... | Lav | 35x5 | 35x5 | Bim | Fir | 2500 | 126 |
| Belmont B | 1525 | G. B. S. | 3 3/4x4 1/4 | 22.5 | L | R-T | F | Zen | V | ..... | Con | Dy | Full | Full LTU 5 | U | 3 | M-E | Math | Shel 510 | B | Torb A | 1/2 | 5.42 | 15.25 | Lav | 34x3* | 34x5* | Sim | Fir | 2000 | 113 |
| Bessemer G | 1450 | Cont N | 3 1/2x5 | 19.6 | L | Stn | FS | Strm | G | ..... | Bos | Bj | Full | Full TU 3/4 | U | 3 | Bld | Per | Shel 350 | I | Torb A | D | ..... | ..... | Ros | 35x5 | 35x5 | Sch | Fir | 3000 | 124 |
| Betz | 1850 | J-3 | 3 3/4x5 1/8 | 22.3 | L | Chic | F | Zen | G | Mon | Bos | Bos | B-Li | B-Li 30 | U | 3 | Pet | Mar | Tim 1250 | W | Tim 6352 | 1/2 | ..... | ..... | Ros | 34x5 | 34x5 | ..... | Fir | 3150 | 140 |
| Brockway E | .... | Wis SU | 4 x5 | 25.6 | H | GO | F | Zen | V | ..... | Bos | LN | B-Li | B-Li 30 | U | 3 | M-E | Row | Col 5045 | S | Col 52001 | F | 5.13 | 20.5 | Gem | 33x5* | 33x5* | ..... | Fir | 3450 | 135 |
| Casco Model A | 1785 | Buda MU | 3 3/4x5 1/8 | 22.4 | L | GO | F | Zen | V | ..... | Bos | Bos | Full | Full SUI | U | 3 | Spic | Stan | Col 5000 | S | Col 52000 | 1/2 | 5.85 | 23.46 | Woh | 34x5 | 34x5 | Arc | Fir | 3100 | 130 |
| Chevrolet T | 1095 | Own | 3 11/16x5 1/4 | 21.7 | H | Har | FS | Zen | G | Mon | Rm | AuL | Own | ..... | ... | 3 | ..... | Arm | ..... | W | ..... | 1/2 | 7 | 24.67 | M-P | 33x4* | 35x5* | Hay | Jax | 2840 | 125 |
| Corbitt E-22 | 1480 | Cont N | 3 3/4x5 | 22.5 | L | McC | FS | Strm | V | ..... | Eis | ..... | B-Li | B-Li 30 | U | 3 | Hart | Shel | Shel 33FA500 | W | Shel W-1001 | 1/2 | 6 | 20 | Ros | 34x3 1/2 | 34x4 | Bim | Fir | 3730 | 130 |
| Day-Elder AN | .... | Buda WTU | 3 3/4x5 1/8 | 22.5 | L | Bus | F | Zen | G | ..... | Eis | ..... | B-Li | B-Li | U | 3 | Hart | Shel | Col 7018 | W | Tim | 1/2 | 6.2 | 20.71 | Gem | 34x3 1/2 | 34x4 | Jon | Fir | 3000 | 128 |
| Diehl A | .... | Cont N | 3 1/2x5 | 19.6 | L | ..... | FS | Zen | G | ..... | Sim | ..... | B.B. | Durs O2800 | ... | 3 | KB | Mar | Sals 1455E | I | Torb OX2L | D | 5.3 | ..... | Ros | 34x4 1/2* | 35x5* | Sch | Fir | 2400 | 115 |
| D-Olt A-1 | 1695 | H-Sp 7000 | 3 1/2x5 | 19.6 | L | ..... | FS | Zen | V | Opt | RBc | ..... | B-Li | B-Li 30 | U | 3 | Spic | SP | Tim 1250 | W | Tim 6250 | 1/2 | 6.75 | 22 | Ros | 35x5 | 35x5 | Day | Fir | 3400 | 148 |
| Dorris K-2 | 2490 | Own | 4 x5 1/2 | 25.6 | H | Mod | F | Strm | V | ..... | Bos | Wes | Own | W-Gr | U | 3 | Spic | Row | Tim 1250 | B | Tim 5542 | 1/2 | 4.23 | 15.65 | Ros | 33x5 | 33x5 | Mun | ..... | 2000 | Op |
| Duplex D | .... | Buda WTU | 3 3/4x5 1/8 | 22.5 | L | Mod | F | Zen | V | ..... | Wes | Wes | B-Li | B-Li | U | 3 | Pet | Pen | ..... | B | Tim | 1/2 | 5.5 | 22 | Woh | 33x5* | 33x5* | Mot | Fir | 3000 | 132 |
| Eugol | 1795 | Buda WTU | 3 3/4x5 1/8 | 22.5 | L | Chic | F | Strm | V | ..... | Wes | Wis | W-Gr | ..... | U | 3 | Pet | Math | ..... | W | ..... | 1/2 | 6.25 | 30.3 | Ros | 34x5* | 34x5* | Bim | Fir | 3500 | 135 |
| Federal R-2 | .... | Cont J-4 | 3 3/4x5 | 22.5 | L | Own | F | Zen | V | ..... | Eis | Rm | B.B. | Det | U | 3 | Pet | ..... | Tim 1250 | W | Tim 6250 | 1/2 | 5.6 | 17.4 | Gem | 33x5 | 33x5† | ..... | ..... | 2950 | 132 |
| Ford T | 380 | Own | 3 3/4x4 | 22.5 | L | Own | S | ..... | G | ..... | Own | ..... | Own | Own | U | 2 | Own | Own | Own | W | Own | 1/2 | Op | 19.9 | Own | 30x3 1/2* | 32x4 1/2 | ..... | ..... | 1520 | 124 |
| Fulton A | 1495 | H-Sp 7000 | 3 1/2x5 | 19.6 | L | Liv | FS | Cart | G | ..... | Sim | Wis | B.B. | Durs O2500B | U | 3 | Spic | Row | Col 5038 | B | Col 51002 | ... | 6.8 | ..... | Lav | 35x5 | 35x5 | Hoo | Fir | 2800 | 130 |
| Garford 15 | 1590 | Buda MU | 3 3/8x5 1/8 | 21 | L | Lng | F | Strm | G | ..... | AtK | AtK | ..... | Own | U | 3 | Spic | Per | Own | W | Stn | 1/2 | 6.5 | ..... | Gem | 34x5* | 34x5 | ..... | Fir | 3500 | 132 |
| Gary F | 1775 | Buda WU | 3 3/4x5 1/8 | 22.5 | L | Chic | S | Zen | V | Pier | Eis | .... | Full | ..... | U | 3 | Hart | Tut | ..... | W | ..... | 1/2 | ..... | ..... | Ros | 36x3 1/2 | 36x4 | Pru | ..... | 3400 | 130 |
| G.M.C. K-16 | .... | Own | 3 1/2x5 1/2 | 19.6 | L | Own | F | Mar | G | Own | Sim | Own | Own | Own | U | 3 | UM | Det | Own | B | Own | 3/4 | 6 | 21.9 | Own | 34x5* | 34x5* | Kel | ..... | 3250 | 132 |
| Gotfredson | 1685 | Buda WTU | 3 3/4x5 1/8 | 22.5 | L | McC | F | Zen | V | ..... | Bos | AtK | B-Li | B-Li 30 | U | 3 | Spi | Am | Tim 1250 | W | Tim 6250 | 1/2 | 5.6 | 22.4 | Gem | 34x5* | 34x5* | Day | Fir | 3250 | 131 |
| Graham Brothers B | 1265 | Dodge | 3 7/8x4 1/2 | 24 | L | McC | FS | Stew | V | ..... | NE | NE | Dod | Dod | U | 3 | UP | Det | Dod | S | Own B-360 | 1/2 | 6.28 | 29.29 | Dod | 33x4 1/2* | 34x5* | ..... | ..... | 2550 | 140 |
| Gramm-Pioneer 10-SpT | 1245 | Lyco CT | 3 3/4x5 | 22.5 | L | Own | F | Zen | G | ..... | Con | AuL | Mun | ..... | U | 3 | Own | Per | Sals | B | Sals 1483 | 3/4 | 5.75 | 23 | Ros | 33x5* | 33x5* | ..... | Fir | 2370 | 129 |
| Hal-Fur D | 2000 | Hin HA 400 | 4 x5 1/2 | 25.6 | L | GO | F | Zen | V | Hin | Bos | Wis | B.B. | B-Li 35 | A | 4 | Pet | Per | Tim 1452 | W | Tim 6352 | 1/2 | 5.5 | 24 | Gem | 35x5* | 36x6 | Stn | Fir | 3400 | Op |
| Hawkeye | 1375 | Buda WTU | 3 3/4x5 1/8 | 22.5 | L | ..... | F | Zen | G | ..... | Eis | ..... | Full | ..... | U | 3 | ..... | Det | ..... | I | Clark | D | 6.25 | 18.75 | Ros | 34x5 | 34x5 | Day | Fir | 3250 | 136 |
| Independent B (Iowa) | 1665 | Cont N | 3 1/2x5 | 19.6 | L | GC | FS | Strm | V | ..... | Bos | ..... | Full | ..... | U | 3 | Bld | GC | ..... | ... | ..... | D | ..... | ..... | Lav | 34x3 | 34x4 | StM | Fir | 3480 | 135 |

| | | |

| TRADE NAME AND MODEL | Chassis Price | ENGINE DETAILS: Make and Model Number (4 cylinder unless otherwise noted.) | Bore and Stroke | N. A. C. C. Horsepower | Valve Arrange't | Radiator (Make) | Lubrication | Carburetor | Fuel Feed | Governor (Make) | Ignition System | Engine Starter | Clutch (Make) | GEARSET: Make and Model Number | Location | Speeds | Universal (Make) | Springs (Make) | FRONT AXLE and Model Number | REAR AXLE: Final Drive | Make and Model Number | Type | Total Gear Reduction in High | Total Gear Reduction in Low | Steering Gear (Make) | TIRES, WHEELS, RIMS: *Pneumatic †Dual ‡Solid — Front | Rear | Wheels (Make) | Rim Equipment | Chassis Weight (Stripped) | Wheelbase |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | 1 | | | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | | 13 | 14 | 15 | 16 | 17 | 18 | | | 19 | | | 20 | 21 | | |
| **1½ Ton—Con'd** | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Diamond T-T | .... | Hin | 3¾x5¼ | 22.5 | L | GO | F | Strm | V | Own | Bos | ..... | Covt | ..... | U | 3 | Spic | Math | ..... | W | Own | ½ | 18.2 | 29.9 | Gem | 36x3½ | 36x5 | ..... | ..... | 4150 | 144 |
| Diehl B | .... | H-Sp 7000 | 3½x5 | 19.6 | L | ..... | FS | Zen | G | ..... | Bos | ..... | M-E | Durs 02500B | ... | 3 | M-E | Row | Sals 1544E | I | Torb S 327 | D | 5.3 | ..... | Ros | ..... | ..... | Way | ..... | 2500 | 120 |
| Dixon | 2650 | Cont J-4 | 3¾x5 | 22.5 | L | GO | F | Zen | G | Pier | Bos | ..... | Full | Full | U | 4 | Hart | SP | ..... | W | Tim | F | Opt | Opt | Ros | 36x3 | 36x6 | StM | ..... | 4300 | 145 |
| D-Olt AA | 2450 | H-Sp 7000 | 3½x5 | 19.6 | L | GO | S | Zen | V | Dup | RBo | ..... | B-Li | B-Li 30 | U | 4 | Spic | SP | Tim 1250 | W | Tim 6250 | ½ | 7.75 | 37.2 | Ros | 34x4 | 34x5 | ..... | ..... | 4500 | 168 |
| Duplex GH | .... | Buda WTU | 3¾x5⅛ | 22.5 | L | Mod | FS | Zen | G | .... | Wes | Wes | Covt | Covt | U | 3 | Pet | Pen | ..... | W | Shel | ½ | 6.5 | 26 | Woh | 36x5* | 36x5 | Mot | Fir | 3900 | 138 |
| Federal S-21 | .... | Cont J-4 | 3¾x5 | 22.5 | L | Own | F | Zen | V | Phar | Eis | Rm | B.B. | Own | A | 3 | Pet | ..... | Own | W | Tim 6352 | ½ | 7.2 | 20.65 | Gem | 36x3½ | 36x5 | ..... | ..... | 3900 | 144 |
| Federal S-22 | .... | Cont J-4 | 3¾x5 | 22.5 | L | Own | F | Zen | V | .... | Eis | Rm | B.B. | Own | A | 3 | Pet | ..... | Own | W | Tim 6352 | ½ | 7.2 | 20.65 | Gem | 34x5* | 36x6* | ..... | ..... | 3900 | 144 |
| Front Drive C | 2800 | Buda CTU | 3¾x5½ | 22.5 | L | Hoo | F | Zen | V | Pier | Spl | Opt | B.B. | Own FTT | A | 3 | Tut | Own | Own FD | W | Own D | ½ | 8 | 32 | Ros | 34x5‡ | 34x4‡ | Stn | Opt | 3200 | 144 |
| Garford 25 B | 2375 | Buda WU | 3¾x5⅛ | 22.5 | L | Own | S | Strm | V | ..... | Spl | ..... | ..... | Own | A | 3 | Spic | Per | Own | W | Tim 6460 | ½ | 7.75 | ..... | Ros | 36x3½ | 36x5 | ..... | ..... | 4000 | 135 |
| Gotfredson | 2300 | Buda GTU | 4 x5¼ | 25.6 | L | McC | F | Zen | V | ..... | Bos | AtK | B-Li | B-Li 35 | U | 4 | Spic | Am | Tim 1452 | W | Tim 6460 | ½ | 6.5 | 34.7 | Gem | 36x6* | 38x7* | ..... | Fir | 4000 | 144 |
| Graham Bros | 1325 | Dodge | 3⅞x4½ | 24.1 | L | McC | FS | Stew | V | ..... | NE | NE | Dod | Dod | U | 3 | UP | Det | Dod | S | Own B-360 | ½ | 6.28 | 29.29 | Dod | 33x4½* | 36x6 | ..... | ..... | 2625 | 140 |
| Gramm-Pioneer 15 | 1750 | Cont N | 3¾x5 | 22.5 | L | Own | FS | Strm | G | ..... | NE | NE | Full | Full | U | 3 | Own | Per | Col | I | Clark 10 | D | 7.6 | 30.4 | Ros | 36x3½ | 36x5 | Bim | Fir | 3660 | ... |
| Gramm-Pioneer 65 | 2250 | Cont N | 3¾x5 | 22.5 | L | Own | FS | Strm | G | ..... | NF | NE | Full | Own | A | 3 | Own | Per | Col | W | Own 602-8 | ½ | 7.8 | 28 | Ros | 36x3½ | 36x5 | Bim | Fir | 3860 | ... |
| G. W. W. Farm Spec | 1585 | Wei | 3¾x5½ | 22.5 | H | Chic | F | Sheb | G | ..... | Del | Del | Full | Full TU 3 | U | 3 | Acm | GC | Shul 350 | I | Clark 10 | D | 7 | ..... | Woh | 35x5 | 35x5 | Roy | Fir | 3200 | 142 |
| Hal-Fur | 2350 | Hin 400 | 4 x5½ | 25.6 | L | GO | F | Zen | V | Hin | Apo | Wes | M-E | B-Li 35 | U | 4 | Pet | Pen | Vul 3F | W | Vul 3R | ... | 7.5 | 35 | Gem | 34x5* | 38x7* | Smi | Fir | 3750 | 168 |
| Hawkeye K | 1645 | Buda CTU | 3¾x5¼ | 22.5 | L | Idl | FS | Zen | G | Sim | Eis | ..... | Full | Full | U | 3 | Hart | Det | Shul | I | Clark ID | D | 7.6 | ..... | Ros | 34x3½ | 34x5 | ..... | ..... | 3750 | 149 |
| Hug | 1350 | Buda WTU | 3¾x5⅛ | 22.5 | L | Per | F | Zen | G | ..... | Bos | ..... | Full | Full SU 1 | U | 3 | Bld | Tut | Col 5000 | B | Clark BSpec | ½ | 5.5 | 26.62 | Ros | 34x5 | 34x5 | Stn | Fir | 2900 | 118 |
| Independent G (Iowa) | 2040 | Cont J | 3¾x5 | 22.5 | L | GO | FS | Strm | V | ..... | Bos | ..... | Full | ..... | U | 3 | Bld | GC | ..... | I | ..... | D | 8.2 | ..... | Lav | 34x3½ | 34x5 | StM | Fir | 3875 | 142 |
| Indiana 12 | .... | Wau BUX | 3¾x5¼ | 22.5 | L | McC | F | Strm | G | ..... | Eis | ..... | B.B. | B-Li 35 | A | 3 | Spic | Shel | Shel 33FA500 | W | Shel W-1501 | ½ | 7.8 | 31.2 | Woh | 34x3½ | 34x6 | Bim | ..... | 4100 | 146 |
| International 31 | .... | Own | 3½x5¼ | 19.6 | L | Own | FS | Ens | G | Own | Bos | Own | Own | ..... | A | 3 | Own | ..... | ..... | I | ..... | D | 8 | 26.5 | Own | ..... | ..... | Own | ..... | 3200 | 128 |
| Kalamazoo GI | 2100 | Cont N | 3¾x5 | 22.5 | L | GO | FS | Strm | V | Pier | Eis | Dy | Full | Full | A | 4 | Bld | Shel | Shul 510 | W | Wig | ½ | 8.5 | 40.8 | Ros | 34x4 | 34x5 | Bim | ..... | 4450 | 144 |
| Kalamazoo LG | 2775 | Her O | 4 x5 | 25.6 | H | GO | F | Strm | V | Pier | Sim | Sim | Full | Full | A | 4 | Bld | Shel | Shel 0343 | W | Shel | ½ | 8.6 | 40.8 | Ros | 36x4 | 36x7 | Smi | ..... | 5030 | 144 |
| Kearns N | 1650 | H-Sp 7000 | 3½x5 | 19.6 | L | Own | FS | Zen | V | ..... | Bos | Dy | Full | ..... | A | 3 | M-E | Shel | ..... | I | ..... | ½ | 7.6 | 30 | Lav | 34x4 | 34x6 | ..... | Fir | 3000 | 136 |
| Kelly-Springfield K34 | 2700 | Own | 3¾x5¼ | 22.5 | L | Lng | F | Zen | G | Pier | Eis | Del | B.B. | ..... | A | 3 | Pet | Per | ..... | W | ..... | ½ | 8.5 | 31.2 | Gem | 36x3½ | 36x6 | StM | ..... | 4670 | Op |
| Kenworth | .... | Buda ITU | 4 x5½ | 25.6 | L | Idl | F | Strm | V | Mon | Bos | ..... | B.B. | Cott BUA | U | 3 | Bld | Tut | Shel | W | Shel W-103 | ½ | 7.7 | 31 | Ros | 36x3½ | 36x6 | Jon | ..... | 4620 | 142 |
| Kissel General Utility | 1975 | Own 40000 | 3⅞x5½ | 24.1 | L | McC | S | Strm | V | Pier | Eis | ..... | W-Gr | ..... | U | 3 | Spic | Math | ..... | W | ..... | ½ | 7.8 | 28.5 | Jac | 34x3½ | 34x5 | Pru | 3656 | 4100 | 152 |
| Kleiber A | .... | Cont K-4 | 4⅛x5¼ | 27.2 | L | Per | FS | Strm | G | Sim | Bos | ..... | ..... | ..... | A | 4 | Spic | ..... | ..... | W | ..... | ½ | 7.1 | 37.51 | Ros | 36x3½ | 36x6 | Smi | ..... | 5200 | 143 |
| Larrabee | 2400 | Cont J-4 | 3¾x5 | 22.5 | L | R-T | F | Zen | G | Phar | Bos | ..... | B-Li | B-Li 30 | U | 3 | Spic | Shel | Shel 33FA500 | W | Shel W-1501 | ½ | 7.66 | 31.4 | Gem | 34x3½ | 34x5 | Hoo | ..... | 4500 | 138 |
| Luedinghaus W | 2490 | Wau BUX | 3¾x5¼ | 22.5 | L | Own | FS | Sheb | G | Wau | Spl | ..... | B.B. | ..... | U | 3 | Spic | Tut | ..... | W | ..... | ½ | 8.6 | 26.6 | Lav | 34x3½ | 34x5 | StM | ..... | 4100 | 144 |
| Maccar L2 | .... | Cont K4 | 4⅛x5¼ | 27.2 | L | Own | F | Strm | V | Pier | Eis | Bos | B-Li | B-Li 35 | U | 4 | Spic | Mer | Tim 1520 | W | Tim 6460 | ½ | 8.75 | 46.81 | Ros | 36x4 | 36x6 | Day | Fir | 4900 | 150 |
| Mack AB | 3000 | Own AB | 4 x5 | 25.6 | L | Own | S | Zen | G | Own | Spl | ..... | Own | ..... | U | 4 | Spic | Mer | ..... | C | ..... | D | 6.99 | 37.84 | Own | 36x4 | 36x3½† | ..... | ..... | 4900 | Op |
| Mack AB | 3450 | Own AB | 4 x5 | 25.6 | L | Own | S | Zen | G | Own | Spl | ..... | Own | ..... | U | 4 | Spic | Mer | ..... | R | ..... | F | 7.6 | 36.80 | Own | 36x4 | 36x3½† | ..... | ..... | 5300 | Op |
| Mason Road King | .... | Her O | 4 x5 | 25.6 | L | Fed | F | John | G | ..... | AuL | AuL | Hoos | ..... | A | 3 | Spic | Arm | Fli | ... | ..... | F | ..... | ..... | Lav | 34x5 | 34x5 | Imp | Fir | ..... | 130 |
| Master 21 | .... | Buda OU | 4⅛x5½ | 27.2 | L | Chic | F | Zen | V | Pier | Eis | ..... | Full | Full | U | 3 | Spic | Det | ..... | W | Tim | ½ | Opt | Opt | Ros | 34x4 | 34x6 | Pru | ..... | 4300 | 142 |
| Maxwell | .... | Own | 3⅞x4½ | 21 | L | Own | FS | Stew | G | .... | AtK | Rm | Own | ..... | U | 3 | Own | ..... | ..... | W | ..... | ½ | 7.25 | 34.4 | Own | 35x5 | 35x5 | Kel | Fir | 2385 | 124 |
| Menominee H | 2475 | Wis EAU | 4 x5 | 25.6 | L | Own | FS | Strm | G | Mon | Eis | Opt | Det | ..... | U | 3 | Spic | Tut | ..... | W | ..... | ½ | 8.25 | 30.36 | Ros | 36x3½ | 36x5 | Stn | Fir | 4220 | 144 |
| Moreland BX | 1980 | Her O | 4 x5 | 25.6 | L | Own | F | Zen | G | .... | Eis | AuL | AuL | B-Li | U | 3 | Own | GC | Tim 1520 | W | Tim 6460 | ½ | 7 | ..... | Ros | 36x4 | 36x6 | StM | Gdy | 3400 | Op |
| Nelson-LeMoon G-2 | .... | Cont K-4 | 4⅛x5¼ | 27.2 | L | Chic | F | Strm | G | Phar | Bos | Bos | B-Li | B-Li 30 | U | 3 | Spic | Am | Tim 1452 | W | Tim 6352 | ½ | 7.2 | 31.3 | Ros | 34x3½ | 34x5 | ..... | ..... | 3466 | 134 |
| Noble A-21 | 1890 | Buda WTU | 3¾x5⅛ | 22.5 | L | Chic | F | Strm | V | ..... | Eis | Bos | Full | Full LTU 4 | U | 3 | Bld | ..... | Shel 33FA500 | W | Shel 1501 | ½ | 6.50 | 26 | Lav | 34x5 | 34x5 | ..... | Fir | 3700 | 144 |
| Ogden D | .... | Cont N | 3¾x5 | 22.5 | L | Chic | FS | Strm | G | Pier | Spl | ..... | B-Li | ..... | U | 3 | M-E | Tut | ..... | W | ..... | ½ | 8.75 | ..... | Ros | 36x3½ | 36x5 | Stn | ..... | 3400 | 136 |
| O. K | 2000 | Buda ITU | 4 x5½ | 25.6 | L | R-T | FS | Zen | V | Pier | Eis | ..... | Full | ..... | U | 3 | Hart | Cham | ..... | W | ..... | ½ | 8.25 | 27.9 | Ros | 36x3½ | 36x5 | Bim | ..... | 4310 | 146 |
| Parker E-23 | 2200 | Wis SU | 4 x5 | 25.6 | L | Own | F | Strm | V | ..... | Wes | Wes | B-Li | B-Li 30 | U | 3 | Bld | Tut | Tim 1452 | W | Tim 6460 | ½ | 7.1 | 28.7 | Lav | 34x3½ | 34x6 | Bim | ..... | 3700 | 140 |
| Rainier R36 | 2490 | Cont J-4 | 3¾x5 | 22.5 | L | EM | F | Zen | V | Pier | Eis | ..... | B-Li | B-Li 30 | U | 3 | Spic | Per | Tim 1520 | W | Tim 6460 | ½ | 7.75 | 25.8 | Ros | 34x3½ | 34x5 | Jon | ..... | 3900 | 147 |
| Republic 10-E | 1695 | Cont N | 3¾x5 | 22.5 | L | Own | FS | Strm | V | ..... | Bos | ..... | Full | ..... | U | 3 | Spic | Math | ..... | I | ..... | D | 6.28 | 25.12 | Jac | 34x5* | 34x5* | Nor | Fir | 3225 | 124 |
| Rowe CW | 3000 | Wis CAU | 3¾x5 | 22.5 | L | Fed | F | Zen | G | Sim | Bos | ..... | B-Li | B-Li 35 | U | 4 | Spic | Shel | Shel 33FA500 | W | Shel W-1501 | ½ | 6.5 | 26 | Ros | 36x6* | 36x6* | Hoo | ..... | 3800 | 133 |
| Rumely A | 2150 | Buda CTU | 3¾x5¼ | 22.5 | L | Mod | F | Strm | G | Pier | Spl | ..... | Full | Full LTU 5 | U | 3 | Bld | Math | Shul 510 | W | Shul 1501-W | ½ | 7.8 | 31.2 | Gem | 36x3½ | 36x5 | Mot | Gdy | 4100 | 144 |
| Sandow | 1895 | ..... | 3¾x5 | 22.5 | L | Chic | FS | Strm | V | ..... | Eis | ..... | Full | ..... | U | 3 | Spic | ..... | ..... | W | ..... | ½ | 7.75 | ..... | Ros | ..... | ..... | Opt | Fir | 3495 | 138 |
| Sanford W-15 | .... | Cont N | 3¾x5 | 22.5 | L | R-T | S | Strm | V | ..... | Con | Dy | B-Li | B-Li 30 | U | 3 | Spic | Shel | Shel 33FA500 | W | Shel 1501 | ½ | 6.5 | 26.67 | Ros | 36x6 | 36x6 | Hoo | Fir | 3800 | 140 |
| Schacht | 2500 | Wis SU | 4 x5 | 25.6 | H | Own | F | Zen | V | ..... | Apo | ..... | Full | Full | U | 4 | Bld | Shel | ..... | R | Wis | ½ | 7. | 33.6 | Ros | 36x3½ | 36x7 | ..... | ..... | 4400 | 144 |
| Selden Unit 30 | 2375 | Cont N | 3¾x5 | 22.5 | L | Lng | FS | Strm | G | Pier | Eis | ..... | B-Li | ..... | U | 3 | Spic | Per | ..... | W | ..... | ½ | 7 | 23.31 | Lav | 34x3½ | 34x5 | Arc | ..... | 3560 | 137 |
| Service 21 | .... | Buda RU | 3¾x5⅛ | 22.5 | L | Lng | FS | Strm | V | ..... | Eis | ..... | Full | Full TU¾ | U | 3 | M-E | Shel | Tim 1520 | W | Tim 6456 | ½ | 7.75 | 23.25 | Ros | 34x3½ | 34x5 | Bim | ..... | 3450 | 137 |
| Signal H | .... | Cont K-4 | 4⅛x5¼ | 27.2 | L | R-T | FS | Strm | G | Sim | Eis | ..... | B-Li | ..... | A | 4 | Spic | Shel | ..... | W | ..... | ½ | 7.75 | 31 | Ros | 34x4 | 36x6 | StM | ..... | 4760 | 146 |
| Standard 1½K | 1695 | Cont N | 3¾x5 | 22.5 | L | Lng | F | Strm | V | ..... | Eis | ..... | B-Li | B-Li 30 | U | 3 | Spic | Am | Tim 1452 | W | Tim 6352 | ½ | 7.2 | 31.3 | Ros | 34x3½ | 34x5 | ..... | ..... | 3466 | 134 |
| Sterling | 3240 | Own | 4 x5¾ | 25.6 | L | Own | F | Zen | V | Wau | Eis | ..... | B-Li | B-Li 35 | U | 3 | Spic | Math | Tim 1452 | W | Tim 6460 | ½ | 7 | 37.45 | Ros | 36x3½ | 36x5 | Pru | ..... | 4700 | 142 |
| Stewart 15 | .... | Buda MU | 3¾x5⅛ | 22.5 | L | Bus | F | Zen | G | ..... | Eis | Dy | Full | ..... | U | 3 | Spic | Det | ..... | B | ..... | D | 6.7 | 26.8 | Ros | 35x5* | 35x5* | Way | Fir | 3200 | 128 |
| Stewart 9 | 1870 | Cont N | 3¾x5 | 22.5 | L | Bus | FS | Zen | G | ..... | Eis | ..... | Full | ..... | U | 3 | Hart | Det | ..... | I | ..... | D | 7.6 | 22.8 | Gem | 34x3½† | 34x6 | Way | Fir | 3440 | 140 |
| Stoughton B | 2150 | ..... | ..... | 22.5 | L | Own | FS | Strm | G | Wau | Eis | ..... | B-Li | B-Li 30 | U | 3 | Ther | Own | Shel 33FA500 | W | Shel W-1501 | ½ | 7.8 | 32 | Lav | 36x3½ | 36x5 | Roy | Gdy | 3800 | 140 |
| Tiffin GW | 2100 | Cont C-4 | 4⅛x5¼ | 27.2 | L | Own | FS | Sheb | G | Pier | Bos | Wes | Full | Full TU3 | U | 3 | Pet | Vul | Shel D-343 | W | Shel W-103 | ½ | 7.7 | 23.25 | Ros | 36x3½ | 36x5 | Smi | ..... | 3750 | 135 |
| Tower J | 1785 | Cont K4 | 4⅛x5¼ | 27.2 | L | Own | S | Zen | G | ..... | Eis | ..... | Full | Full LTU5 | U | 3 | Bld | Det | Tim 1452 | W | Tim 6460 | ½ | 7.25 | 29 | Ros | 35x5* | 38x7* | Pru | Fir | 4520 | 142 |
| Traffic Speedboy | 1595 | Cont N-4 | 3¾x5 | 22.5 | L | Own | FS | Cart | G | ..... | Bos | GD | Covt | Covt MUNC | U | 3 | Ther | Det | Own | I | Russ 3000-I | D | 6.15 | 22.5 | Own | 35x5* | 35x5* | Day | Fir | 3400 | 128 |
| Transport 25 | .... | Buda WU | 3¾x5⅛ | 22.5 | L | Mod | F | Strm | V | .... | Eis | Opt | Full | ..... | U | 3 | Sned | Det | ..... | I | ..... | F | 7.25 | 21.75 | Jac | 34x3½ | 34x5 | Mot | ..... | 3700 | 130 |
| Traylor B | 2390 | Buda WU | 3¾x5⅛ | 22.5 | L | GO | F | Zen | G | Sim | Spl | ..... | Covt | Covt MOSE | U | 3 | M-E | Mer | Shel 33FA500 | W | Shel W-1501 | ½ | ..... | ..... | Ros | 34x3½ | 34x6 | Sch | ..... | 4000 | 140 |
| Triangle A | 1985 | Wau BUX | 3¾x5¼ | 22.5 | L | Per | FS | Strm | G | Wau | Eis | ..... | Full | Full LTU5 | U | 3 | UP | Det | Col 7007 | I | Clark 1-D | D | 7.25 | 29 | Gem | 34x3½ | 34x6 | Roy | Fir | 3750 | 144 |
| Ultimate A | 3200 | Buda ITU | 4 x5½ | 25.6 | L | Own | F | Strm | G | Pier | Eis | Bos | B-Li | ..... | U | 4 | Spic | Shel | Shel D-370 | W | Shel W-103 | ½ | 6.5 | 37.4 | Ros | 36x3½ | 36x6 | Jon | Fir | 4500 | 140 |
| United Express | .... | Her O | 4 x5 | 25.6 | L | Per | FS | Zen | G | ..... | Bos | Bos | B-Li | B-Li | U | 3 | Spic | ..... | ..... | B | Col | ¾ | 5.1 | 20.86 | Lav | 34x5 | 34x5 | ..... | Fir | 3050 | 148 |
| U. S. N | 2225 | Cont N | 3¾x5 | 22.5 | L | Lng | FS | Strm | V | ..... | Eis | Opt | Full | Full LTU 4 | U | 3 | Opt | Shel | Shul 350 | I | Clark ID | D | 7.6 | 25.3 | Lav | 36x3½ | 36x5 | Sch | ..... | 3800 | 144 |
| Velie 46 | 1585 | Cont N | 3¾x5 | 22.5 | L | Own | FS | Strm | G | Mon | Ber | ..... | B.B. | Durs | U | 3 | ..... | Math | Col | I | Torb C-2 | D | .8 | 31.2 | Ros | 36x3½ | 36x5 | Bim | Gdy | 3650 | 133 |
| Wilcox BB | 2550 | Own | 4¼x5 | 29.9 | L | ..... | S | Strm | G | Dup | Bos | ..... | Own | ..... | A | 4 | Own | Shel | ..... | R | ..... | ½ | 8.25 | 29.9 | Own | 36x4 | 36x5† | ..... | ..... | 4600 | 135 |
| Wilson F | 2270 | Cont | 3¾x5⅛ | 22.5 | L | Lng | FS | Hol | G | Pier | Eis | ..... | B.B. | Cott A | A | 4 | Ther | Per | Tim 1520 | W | Tim 6460 | ½ | 7.75 | 24 | Ros | 36x3½ | 36x5 | ..... | ..... | 3800 | 140 |
| Winther 39 | 1950 | Wis CAU | 3¾x5 | 22.5 | L | Brm | F | Strm | G | ..... | Eis | Wes | Full | Full TU¾ | U | 3 | Pet | Det | Col | I | Clark | D | 7 | 21 | Lav | 34x3½ | 34x5 | Own | Fir | 3700 | 140 |
| Winther 430 | 2550 | Wis CAU | 3¾x5 | 22.5 | L | Brm | F | Strm | G | ..... | Eis | Wes | Full | Full TU¾ | U | 3 | Pet | Det | Own | I | Clark | D | 9 | 36 | Lav | 32x4 | 32x4 | Own | Fir | 4100 | 132 |
| Wisconsin B | 2200 | Cont J-4 | 3¾x5 | 22.5 | L | Chic | FS | Strm | V | Phar | Opt | Bos | B-Li | B-Li 31 | U | 3 | Spic | Det | Tim | W | Tim 6352 | ½ | 7.2 | 30.5 | Lav | 34x5* | 36x6* | Bim | Gdy | 3400 | 136 |
| Witt-Will N | 2450 | Cont C-4 | 4⅛x5¼ | 27.2 | L | Own | FS | Zen | G | Pier | Eis | ..... | B-Li | B-Li 35 | U | 3 | Spic | Del | Tim 1520 | W | Tim 6460 | ½ | 7 | 30.36 | Ros | 36x3½ | 36x4 | Arc | Fir | 4000 | 144 |

## 2 Ton

| | | |

| TRADE NAME AND MODEL | Chassis Price | ENGINE DETAILS: Make and Model Number (4 cylinder unless otherwise noted.) | Bore and Stroke | N.A.C.C. Horsepower | Valve Arrange't | Radiator (Make) | Lubrication | Carburetor | Fuel Feed | Governor (Make) | Ignition System | Engine Starter | Clutch (Make) | GEARSET: Make and Model Number | Location | Speeds | Universal (Make) | Springs (Make) | FRONT AXLE and Model Number | REAR AXLE: Final Drive | Make and Model Number | Type | Total Gear Reduction in High | Total Gear Reduction in Low | Steering Gear (Make) | TIRES, WHEELS, RIMS: *Pneumatic †Dual ‡Solid — Front | Rear | Wheels (Make) | Rim Equipment | Chassis Weight (Stripped) | Wheelbase |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 1 | | | | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | | 13 | 14 | 15 | 16 | 17 | 18 | | | 19 | | | 20 | 21 | | |
| **2 Ton—Con'd** | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| U. S.-NW 23 | 2525 | Buda | 3¾x5½ | 22.5 | L | Lng | F | Strm | V | ..... | Bos | Opt | Full | Full LTU 5 | U | 3 | Opt | Shel | Shul 350 | W | Shel W-103 | ½ | 8.75 | 25.97 | Lav | 36x4 | 36x6 | Sch | ..... | 4300 | 144 |
| Walter N. | 3500 | Own FU | 4 x5¾ | 25.6 | L | Bus | F | Strm | G | ..... | Eis | Wes | B-Li | ..... | A | 4 | Own | ..... | ..... | F | 7.25 | 39 | Gem | 36x4 | 36x7 | ..... | ..... | 5500 | 144 |
| White 20 | 3250 | Own GK | 3¾x5½ | 22.5 | L | ..... | FS | Zen | G | ..... | ..... | ..... | Own | Own TBC | A | 4 | Own | ..... | Own | R | Own | ½ | 6.89 | 32.1 | Own | 36x4 | 36x7 | ..... | ..... | 4815 | 168 |
| Wisconsin | 2700 | Cont K-4 | 4⅛x5¼ | 27.2 | L | ..... | FS | Strm | V | Phar | Bos | ..... | B-Li | ..... | U | 4 | Spic | Det | Det | W | Tim | ½ | 8.25 | 41.5 | Lav | 36x6 | 38x7 | Bim | Gdy | 4600 | 140 |
| Witt-Will P. | 2600 | Cont C-4 | 4⅛x5¼ | 27.2 | H | Own | FS | Zen | G | Pier | Eis | ..... | B-Li | B-Li 35 | U | 4 | Spic | Del | Tim 1520 | W | Tim 6460 | ½ | 7.1 | ..... | Ros | 36x3½ | 36x6 | Arc | Fir | 4600 | 168 |
| **2½ Ton** | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Acason A-3 | .... | Wau | 4⅜x5¾ | 30.6 | ... | ... | ... | Zen | V | Wau | ... | ... | ... | ..... | U | 4 | Bld | ..... | Tim | W | Tim 6560 | F | 5.2 | 43. | Ros | 36x4 | 36x10 | ..... | ..... | ..... | 180 |
| Acme 60 | .... | Cont K-4 | 4⅛x5¼ | 27.2 | L | GO | F | Zen | V | Dup | Eis | Del | B.B. | Cott RU | U | 4 | Bld | Det | Tim 1540B | W | Tim 6560 | F | 9.25 | 48.10 | Ros | 36x4 | 36x7 | Bim | ..... | 4830 | 152 |
| American | 3350 | Wis | 4 x6 | 25.6 | L | GO | F | Strm | G | Pier | Apo | ..... | Det | Cott R-4 | U | 4 | Acm | SP | Sav 20-O | W | Thom H | F | 8.33 | ..... | Ros | 36x4 | 36x4† | Ind | ..... | 5000 | 158 |
| Armleder HWB | 3150 | Buda HTU | 4¼x5½ | 28.9 | L | Lng | F | Zen | G | Phar | Bos | Wes | B-Li | B-Li 50 | U | 4 | Spic | Math | Tim 1542 | W | Tim 6560 | F | 9.25 | 49.5 | Ros | 36x4 | 36x7 | StM | ..... | 5000 | 148 |
| Armleder HWC | 3150 | Cont C-4 | 4⅛x5¼ | 27.2 | L | Lng | S | Zen | G | Phar | Bos | Wes | B-Li | B-Li 50 | U | 4 | Spic | Math | Tim 1542 | W | Tim 6560 | F | 9.25 | 49.5 | Ros | 36x4 | 36x7 | StM | ..... | 5000 | 148 |
| Atco A. | ..... | Buda | 4¼x5½ | 28.9 | L | Chic | F | Strm | G | Pier | Eis | ..... | Full | ..... | A | 4 | Hart | Shel | ..... | W | ..... | ..... | 8.7 | 41.6 | Ros | 36x4 | 36x7 | Smi | ..... | 4900 | 150 |
| Atterbury 22C Std | 3375 | Cont K-4 | 4⅛x5¼ | 27.2 | L | Own | F | Zen | V | Pier | Eis | ..... | B-Li | B-Li 51 | A | 4 | Spic | SP | Tim 1542B | W | Tim 6560 | F | 9.25 | 49.48 | Gem | 36x4 | 36x4† | Arc | Fir | 5670 | 156 |
| Atterbury 22C LWB | 3475 | Cont K-4 | 4⅛x5¼ | 27.2 | L | Own | F | Zen | V | Pier | Eis | ..... | B-Li | B-Li 51 | A | 4 | Spic | SP | Tim 1542B | W | Tim 6560 | F | 9.25 | 49.48 | Gem | 36x4 | 36x4† | Arc | Fir | 5670 | 180 |
| Autocar H | 3100 | Own | 4 x5½ | 25.6 | L | Own | S | Strm | G | Phar | .... | ..... | Own | Own | A | 4 | Spic | Del | Own | R | Own | F | 7.72 | 46.3 | Ros | 34x5 | 36x7 | Hoo | ..... | 5500 | 114 |
| Autocar K | 3200 | Own | 4 x5½ | 25.6 | L | Own | S | Strm | G | Phar | .... | ..... | Own | Own | A | 4 | Spic | Del | Own | R | Own | F | 7.72 | 46.3 | Ros | 33x5 | 36x7 | Hoo | ..... | 5600 | 138 |
| Autocar K | 3200 | Own | 4 x5½ | 25.6 | L | Own | S | Strm | G | Phar | .... | ..... | Own | Own | A | 4 | Spic | Del | Own | R | Own | F | 7.72 | 46.3 | Ros | 36x4 | 36x7 | Hoo | ..... | 5600 | 138 |
| Autocar K | 3200 | Own | 4 x5½ | 25.6 | L | Own | S | Strm | G | Phar | .... | ..... | Own | Own | A | 4 | Spic | Del | Own | R | Own | F | 7.72 | 46.3 | Ros | 36x4 | 36x8 | Sch | ..... | 4750 | 152 |
| Available JH | 3160 | Her O. | 4 x5 | 25.6 | L | Chic | FS | Zen | V | Pier | Bos | ..... | B-Li | B-Li 35 | A | 4 | M-E | Tut | Tim | W | Tim 6560 | F | 8.5 | 40.3 | Ros | 36x4 | 36x8 | Sch | ..... | 4750 | 152 |
| Bell O | 2550 | Buda | 4¼x5½ | 28.9 | L | Chic | F | Strm | V | Dup | Eis | ..... | B.B. | ..... | U | 3 | UP | Det | ..... | I | ..... | D | 8 | 38.4 | Gem | 34x4 | 34x7 | Bim | Fir | 4200 | 146 |
| Belmont E | .... | Buda ETU | 4½x5½ | 28.9 | L | Own | F | Zen | V | Pier | Apo | Dy | Full | Full LTU 5 | U | 3 | Spic | Math | Shul 510 | I | Russ UI 400 | D | 9.3 | Opt | Lav | 36x4 | 36x6 | E&O | Fir | 5400 | 156 |
| Bessemer J2 | 2895 | Cont C-2 | 4⅛x5¼ | 27.2 | L | Stn | FS | Strm | G | Pier | Bos | ..... | B.B. | Det Dy | U | 3 | UP | Math | Shel 33FA500 | R | Wis 60A | ½ | 7.75 | 24.8 | Lav | 34x4 | 34x6 | ..... | ..... | 4800 | 158 |
| Bethlehem GN | 2185 | Own | 4 x5¼ | 25.6 | L | GO | F | Zen | V | Pier | Bos | GD | B.B. | Det Dy | U | 3 | UP | Math | Shel 33FA500 | R | Wis 60A | ½ | 7.75 | 24.8 | Lav | 34x4 | 34x6 | ..... | ..... | 4100 | 138 |
| Betz | 2985 | D-3 | 4¼x5½ | 29 | L | Chic | F | Zen | G | Mon | Bos | ..... | B-Li | B-Li 35 | U | 4 | Pet | Mar | Tim 1540B | W | Tim 6560 | F | ..... | ..... | Ros | 36x4 | 36x8 | Stn | ..... | 5250 | 160 |
| Brinton D | 2975 | Cont C-4 | 4⅛x5¼ | 27.2 | L | Chic | F | Strm | G | Pier | Bos | ..... | B-Li | ..... | U | 3 | Spic | Tut | ..... | W | ..... | F | ..... | 33.6 | Ros | 36x4 | 36x8 | Smi | ..... | 4900 | 150 |
| Brockway K | .... | Cont K-4 | 4⅛x5¼ | 27.2 | L | Bus | F | Strm | V | Phar | Eis | ..... | B-Li | B-Li 35 | A | 4 | Spic | Mer | Tim 1542 | W | Tim 6560 | F | 7.75 | 41.5 | Gem | 36x4 | 36x8 | Hoo | ..... | 5260 | 153 |
| Chicago C | .... | Her O | 4 x5 | 25.6 | L | Brm | F | Strm | G | Sim | Bos | ..... | B-Li | B-Li 35 | U | 4 | Pet | Mar | Tim 1542 | R | Huck 25 | F | 7.36 | 34 | Gem | 36x4 | 36x7† | Opt | Stn | 5200 | 156 |
| Clydesdale 8 | .... | Cont K-4 | 4⅛x5¼ | 22.5 | L | Own | F | Zen | V | Own | Bos | ..... | B-Li | B-Li 35 | A | 4 | Spic | Stan | Tim 1542B | W | Tim 6460 | ½ | 7.75 | 41.5 | Ros | 36x4 | 36x7 | ..... | ..... | ..... | 156 |
| Commerce 25B | .... | Cont K-4 | 4⅛x5¼ | 27.2 | L | Lng | F | Zen | V | ..... | Eis | Bj | B-Li | B-Li | A | 4 | Spic | Am | ..... | W | Tim | F | 7.75 | 41.46 | Ros | 36x6 | 40x8 | Bim | Fir | 5200 | 156 |
| Concord B | 3600 | Buda HTU | 4¼x5½ | 28.9 | L | Bus | F | Zen | G | Mon | Eis | ..... | B-Li | ..... | U | 4 | Spic | Per | ..... | W | ..... | F | 9.25 | 37 | Ros | 36x4 | 36x8 | Arc | Fir | 5450 | 150 |
| Corbitt B-22 | 2970 | Cont K-4 | 4⅛x5¼ | 27.2 | L | McC | FS | Strm | V | Sim | Eis | ..... | B-Li | B-Li 50 | U | 4 | Hart | Shel | Shel 3FA10 | W | Shel W-21 | ½ | 8.75 | 35 | Ros | 36x4 | 36x7 | Bim | Fir | 5325 | 152 |
| Day Elder CN | .... | Buda HTU | 4¼x5½ | 28.9 | L | Bus | F | Zen | G | Mon | Eis | ..... | B-Li | B-Li | U | 4 | Hart | Shel | Shel D-343 | W | Tim | F | 8.5 | 45.48 | Gem | 36x4 | 36x8 | Jon | Fir | 4600 | 150 |
| Dependable D | 2650 | Buda ITU | 4 x5½ | 25.6 | L | Lng | F | Zen | V | Mon | Spl | AuL | Full | Full TU4 | U | 3 | Acm | Per | Shul 350 | W | Wis 800 | ½ | 8.5 | 35.75 | Ros | 36x4 | 36x7 | Bim | Fir | 5300 | 144 |
| Diamond T–U2 | .... | Hin | 4 x5¼ | 25.6 | L | GO | F | Strm | V | Own | Bos | ..... | Covt | ..... | U | 4 | Spic | Math | ..... | W | ..... | F | 7.8 | 36.81 | Gem | 36x4 | 36x8 | ..... | ..... | 5250 | 160 |
| Dixon | 3250 | Cont K-4 | 4⅛x5¼ | 27.2 | L | GO | F | Zen | G | Pier | Bos | ..... | Full | Full | U | 4 | Hart | SP | ..... | W | Tim | F | Opt | Opt | Ros | 36x4 | 36x8 | Smi | ..... | 5800 | 154 |
| D-Olt C | 3250 | Mid 402 | 4⅛x5¼ | 27.2 | H | GO | F | Zen | G | Dup | RBo | ..... | B-Li | ..... | U | 3 | Spic | SP | ..... | W | ..... | ..... | 8.5 | ..... | Ros | 36x5 | 36x4† | ..... | ..... | 5350 | 168 |
| Duplex AC | .... | Hin 400 | 4 x5¼ | 25.6 | L | Mod | ... | ..... | V | ..... | Eis | Opt | B-Li | B-Li | U | 4 | Pet | Pen | ..... | W | Vul | F | 8.50 | 45.4 | Ros | 34x5† | 36x8 | Mot | Fir | 5500 | 160 |
| Duplex AB | .... | Hin 400 | 4 x5¼ | 25.6 | L | Mod | ... | ..... | V | ..... | Wes | Wes | B-Li | B-Li | U | 4 | Pet | Pen | ..... | W | Shel | ½ | 6.50 | 34.7 | Ros | 35x5* | 38x7 | Mot | Fir | 4900 | 173 |
| Facto | 2695 | Buda EBU | 4¼x5½ | 28.9 | L | Bus | F | Zen | G | Pier | Apo | ..... | Full | Full GU | A | 4 | Bld | SP | ..... | W | Tim 6560 | F | 7.75 | 33.9 | Ros | 36x4 | 36x8 | Smi | Fir | 5800 | 155 |
| Federal U-2 | .... | Cont K-4 | 4⅛x5¼ | 27.2 | L | Own | F | Zen | V | Phar | Eis | Rm | B.B. | Det | A | 4 | Spic | ..... | Own | W | Tim 6560 | F | 7.75 | 45.6 | Gem | 36x4 | 36x4† | ..... | ..... | 5300 | 157 |
| Garford 70 H | 3250 | Buda HTU | 4¼x5½ | 28.9 | L | Own | F | Strm | G | Sim | Spl | ..... | ..... | Own | A | 4 | Spic | Per | Tim 1542B | W | Tim 6560 | F | 7.75 | ..... | Ros | 36x4 | 36x8 | ..... | ..... | 5300 | 144 |
| Gary J | 3050 | Buda HTU | 4¼x5½ | 28.9 | L | Chic | FS | Zen | V | McC | Eis | ..... | Full | ..... | U | 4 | Spic | Math | ..... | W | ..... | F | 8.5 | 41 | Ros | 36x4 | 36x7 | Pru | Gdy | 5500 | 148 |
| Gotfredson | 3300 | Buda ETU | 4¼x5½ | 28.9 | L | McC | F | Zen | V | Phar | Ros | ..... | B-Li | B-Li 51 | A | 4 | Spic | Am | Tim 1520 | W | Tim 6560 | F | 9.25 | 49.5 | Gem | 36x4 | 36x10 | ..... | ..... | 4910 | ... |
| Gramm-Pioneer 125 | 2900 | Cont K4 | 4⅛x5¼ | 27.2 | L | Own | F | Strm | G | Sim | NE | NE | Full | Own | A | 4 | Own | Per | Col | W | Shel | ½ | 7.7 | 36.7 | Ros | 36x4 | 36x7 | Bim | ..... | 4910 | ... |
| Hal Fur B | 3000 | Hin HA 500 | 4¼x5½ | 28.9 | L | GO | F | Zen | V | Hin | Bos | Wes | B.B. | Own 55 | A | 4 | Pet | Per | Tim 1540 | W | Tim 6560 | F | 7.75 | 57.4 | Gem | 36x6 | Opt | Smi | Fir | 5000 | Op |
| Harvey WFB | 2950 | Buda ETU | 4¼x5½ | 28.9 | L | Own | F | Strm | G | McC | Spl | ..... | Full | B-Li 50 | A | 4 | Spic | Bea | Shel D-370 | W | Shel W-103 | ½ | 7.75 | 37.5 | Ros | 36x4 | 36x8 | Smi | ..... | 6800 | 160 |
| Hawkeye M | 2145 | Buda HU | 4¼x5½ | 28.9 | L | Brm | ... | Zen | G | Sim | Eis | ..... | Full | Full | U | 4 | Hart | Det | Shul | I | Clark 2D | D | 18. | ..... | Ros | 36x4 | 36x6 | ..... | ..... | 4500 | 149 |
| Hawkeye ML | .... | Buda HU | 4¼x5½ | 28.9 | L | Brm | ... | Zen | G | Sim | Eis | ..... | Full | Full | U | 4 | Hart | Det | Shul | I | Clark 2D | D | 18. | ..... | Ros | 36x4 | 36x6 | ..... | ..... | ..... | 160 |
| Hendrickson N | 3200 | Buda ETU | 4¼x5½ | 28.9 | L | Chic | F | Strm | G | McC | Spl | ..... | Full | Full G-7 | A | 4 | Ther | Mar | Tim 1542 | W | Tim 6560 | F | 7.7 | 37.2 | Ros | 36x4 | 36x7 | Stn | ..... | ..... | Op |
| Hewitt-Ludlow | .... | Buda HU | 4¼x5½ | 28.9 | L | Mod | F | Strm | V | ..... | Bos | ..... | ..... | ..... | U | 4 | Spic | ..... | Shel | W | Shel | ½ | ..... | ..... | Ros | 36x4 | 36x8‡ | ..... | ..... | ..... | 156 |
| Independent HI (Iowa) | 2940 | Cont K-4 | 4⅛x5¼ | 27.2 | L | Chic | FS | Strm | V | ..... | Bos | ..... | Full | ..... | U | 4 | Bld | Tut | ..... | I | ..... | D | 10 | ..... | Lav | 36x4 | 36x7 | StM | Fir | 4950 | 150 |
| Indiana 25 | .... | Own 38 | 4⅛x5½ | 27.2 | L | McC | F | Strm | G | Pier | Eis | ..... | B.B. | B-Li 51 | A | 4 | Spic | Shel | Shel D-370 | W | Shel W-21 | ½ | 7.75 | 41.3 | Woh | 36x4 | 36x8 | Bim | ..... | 5850 | 156 |
| International 52-Bus | .... | Own | 4¼x5 | 28.9 | H | Own | FS | Ens | V | Own | Spl | Own | Own | ..... | A | 4 | Own | ..... | ..... | I | ..... | D | 4.85 | 25 | Own | ..... | ..... | Own | ..... | 5515 | 190 |
| Kalamazoo HD | 3500 | Wis UAU | 4¼x6 | 28.9 | L | GO | F | Strm | V | Pier | Bos | Dy | Full | Full | A | 4 | Bld | Shel | Shel D-343 | I | Shel | ½ | 9.5 | 57 | Ros | 36x5 | 36x10 | Smi | ..... | 6720 | 144 |
| Kalamazoo NH | 3350 | Wis TAU | 4 x6 | 25.6 | L | GO | F | Strm | V | Pier | Bos | Dy | Full | Full | A | 4 | Bld | Shel | Shel D-343 | M | Shel | ½ | 8.75 | 42.8 | Ros | 36x5 | 36x10 | Smi | ..... | 6400 | 160 |
| Kelly-Springfield K35 | 2900 | Own | 3¾x5¼ | 22.5 | L | Lng | F | Zen | G | Pier | Eis | Del | Own | ..... | A | 3 | .... | Per | ..... | C | ..... | D | 10.6 | 35.11 | Gem | 36x4 | 36x4† | StM | ..... | 5300 | Op |
| Kelly-Springfield K38 | 2900 | Own | 3¾x5¼ | 22.5 | L | Lng | F | Zen | G | Pier | Eis | Del | B.B. | ..... | A | 4 | Pet | Per | ..... | W | ..... | ½ | 11.6 | 35.03 | Gem | 36x4 | 36x4† | StM | ..... | 5300 | Op |
| Kenworth K | .... | Buda HTU | 4¼x5½ | 28.9 | L | Idl | F | Strm | V | Mon | Bos | ..... | B.B. | Cott RU | U | 4 | Bld | Tut | Shel D-370 | W | Shel W-21 | ½ | 8.75 | 45.22 | Ros | 36x4 | 36x8 | Smi | ..... | 5270 | 150 |
| Kissel Freighter | 2875 | Own 50000* | 4¼x5½ | 28.9 | L | McC | S | Strm | V | Pier | Eis | ..... | W-Gr | ..... | A | 4 | Spic | ..... | ..... | W | ..... | F | 8.5 | 42.5 | Jac | 36x4 | 36x8 | Pru | ..... | 5100 | 168 |
| Kleiber B | .... | Cont L-4 | 4½x5½ | 32.4 | L | RT | FS | Strm | G | Sim | Bos | ..... | ..... | ..... | A | 4 | Spic | ..... | ..... | W | ..... | F | 7.75 | 37.51 | Ros | 36x5 | 36x8 | Smi | ..... | 6000 | 160 |
| Lange E | 3450 | Cont K-4 | 4⅛x5¼ | 27.2 | L | Own | F | Strm | V | ..... | Bos | ..... | B-Li | ..... | A | 4 | Pet | SP | Tim 1630B | W | Tim 6560 | F | 9.25 | 49.5 | Ros | 36x4 | 36x7 | Hoo | Opt | 5800 | Op |
| Larrabee K-5 | 3450 | Cont L-4 | 4½x5½ | 32.4 | L | R-T | F | Zen | G | Phar | Bos | ..... | B-Li | B-Li 51 | A | 4 | Spic | Shel | Shel D-370 | W | Shel W-22 | ½ | 7.6 | 47 | Ros | 36x4 | 36x8 | Smi | ..... | 5700 | 156 |
| Mack AB | 3400 | Own AB | 4¼x5 | 28.9 | L | Own | S | Zen | G | Own | Spl | ..... | Own | ..... | U | 4 | Spic | Mer | ..... | C | ..... | D | 8.98 | 43.5 | Own | 36x4 | 36x4† | ..... | ..... | 5200 | Op |
| Mack AB | 3850 | Own | 4¼x5 | 28.9 | L | Own | S | Zen | G | Own | Spl | ..... | Own | ..... | U | 4 | Spic | Mer | ..... | R | ..... | F | 9.25 | 44.9 | Own | 36x4 | 36x4† | ..... | ..... | 5600 | Op |
| Master 41 | .... | Buda ETU | 4¼x5½ | 28.9 | L | Chic | F | Zen | V | Pier | Eis | ..... | Full | ..... | U | 4 | Spic | Det | ..... | W | Tim | F | Opt | Opt | Ros | 34x4 | 36x8 | Pru | ..... | 5100 | 154 |
| Nelson & LeMoon | .... | Cont K-4 | 4⅛x5¼ | 27.2 | L | Chic | F | Strm | G | Phar | Bos | Bos | B-Li | B-Li 50 | U | 3 | Own | GC | Tim 1542 | B | Tim 6566 | F | 7.7 | ..... | Ros | 36x4 | 36x7 | StM | Gdy | 4100 | Op |
| Netco HL | 3500 | Cont L-4 | 4½x5½ | 32.4 | L | E-M | F | Zen | V | Phar | Eis | ..... | B-Li | B-Li 55 | A | 4 | Spic | Math | Tim 1542 B | W | Tim 6560 | F | 7.75 | 41.46 | Gem | 36x4 | 36x8 | Arc | Opt | 5750 | 168 |
| Niles H | 3250 | Buda ETU | 4¼x5½ | 28.9 | L | Mod | S | Strm | G | ..... | Eis | Bos | B-Li | B-Li 50 | U | 4 | Pet | PS | Tim 1520B | W | Tim 6560 | F | 9.25 | 37 | Gem | 36x6* | 40x8* | Hoo | Fir | 4935 | 140 |
| Noble D-51 | 3150 | Buda HTU | 4¼x5½ | 27.2 | L | Chic | F | Strm | V | Pier | Eis | Wes | Full | Full G-7 | A | 4 | M-E | ..... | Shel D-370 | W | Shel W-21 | ½ | 8.75 | 42 | Lav | 36x4 | 36x8 | Bim | Fir | 5700 | 162 |
| Ogden E2 | .... | Cont K-4 | 4⅛x5¼ | 27.2 | L | Chic | FS | Zen | G | Pier | Spl | ..... | B-Li | ..... | A | 4 | M-E | Tut | ..... | W | ..... | ½ | 8.7 | ..... | Ros | 36x4 | 36x8 | Stn | ..... | 5600 | 160 |
| O. K. | 2900 | Buda HTU | 4¼x5½ | 28.9 | L | RT | FS | Zen | V | Pier | Eis | ..... | Full | ..... | U | 4 | Hart | Cham | ..... | W | ..... | ½ | 9.66 | 46 | Ros | 36x4 | 36x8 | Bim | ..... | 5350 | 150 |

| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Old Reliable B. | 3500 | Wis UAU | 4¼x6 | 28.9 | L | Chic | F | Strm | V | Phar | Bos | ..... | Full | Full G | A | 4 | Pet | Shel | Shel D-370 | W | Shel W-21 | ½ | 8.75 | 42 | Ros | 34x4 | 36x4† | Sch | ..... | 6000 | Op |
| Olympic J. | 3200 | Buda HTU | 4¼x5½ | 28.9 | L | Lng | F | Zen | V | Pier | Bos | Opt | B-Li | B-Li 50 | U | 4 | Ther | Lig | Tim 1540B | W | Tim 6560 | F | 7.75 | 31 | Ros | 36x4 | 36x7 | StM | Opt | 4985 | 158 |
| Oneida C. | 3200 | Hin 400 | 4 x5¼ | 25.6 | L | Mod | F | Strm | V | Hin | Apo | ..... | Full | ..... | A | 4 | Pet | Math | ..... | W | ..... | ½ | 8.6 | 41.6 | Ros | 36x4 | 36x7 | Pru | ..... | 5700 | 160 |
| Oshkosh B | 3485 | Her CU-3 | 4 x5⅛ | 25.6 | L | Own | F | Strm | V | Dup | NE | NE | B-Li | B-Li 50 | U | 4 | Pet | Tut | Own | B | Own | F | 8 | 43 | Ros | 40x8* | 40x8* | Roy | Fir | 5400 | 146 |
| Oshkosh BB. | 3585 | Her CU-3 | 4x 5⅛ | 25.6 | L | Own | F | Strm | V | Dup | NE | NE | B-Li | B-Li 50 | U | 4 | Pet | Tut | Own | B | Own | F | 8 | 43 | Ros | 40x8* | 40x8* | Roy | Fir | 5800 | 165 |
| Parker G1. | 3200 | Wis UAU | 4¼x6 | 28.9 | L | Own | F | Strm | V | Pier | Eis | Wes | B-Li | Full G-7 | A | 4 | Bld | Tut | Shel 510 | W | Own G-23 | F | 7.75 | 37.2 | Ros | 36x4 | 36x5† | Bim | ..... | 5600 | 150 |
| Power F. | 3275 | Hin HA 400 | 4 x5¼ | 25.6 | L | GO | F | Zen | G | Hin | Eis | Wes | Full | ..... | U | 4 | ..... | Row | ..... | W | ..... | F | 7.75 | 37.2 | Ros | 36x5 | 36x7 | StM | Fir | 5300 | 150 |
| Rainier R-20. | 3550 | Cont K-4 | 4 ⅛x5¼ | 27.2 | L | E-M | F | Zen | V | Pier | Eis | ..... | B-Li | B-Li 50 | A | 4 | Spi | SP | Tim 1544B | W | Tim 6560 | F | 8.5 | 45.47 | Ros | 36x4 | 36x8 | Jon | ..... | 5500 | 165 |
| Rainier R-20. | 3650 | Cont K-4 | 4 ⅛x5¼ | 27.2 | L | E-M | F | Zen | V | Pier | Eis | ..... | B-Li | B-Li 50 | A | 4 | Spi | SP | Tim 1544B | W | Tim 6560 | F | 8.5 | 45.47 | Ros | 36x4 | 36x8 | Jon | ..... | 5650 | 177 |
| Rowe CDW. | 3575 | Wis NU | 4¼x5 | 28.9 | L | Fed | F | Zen | G | Sim | Bos | ..... | B-Li | B-Li 50 | U | 4 | Spic | Shel | Shel D-370 | W | Shel W-21 | ½ | 7.7 | 31 | Ros | 34x4 | 36x4† | Hoo | ..... | 4800 | 142 |
| Ruggles 40-H. | 2295 | Own | 4 x5 | 25.6 | L | Per | F | Strm | G | .... | Bos | ..... | B-Li | B-Li 35 | U | 4 | Spic | Det | Col 8500 | R | Wis 88E | ½ | 7.85 | 42 | Jac | 36x4 | 36x8 | Nor | Fir | 4850 | 148 |
| Sandow | 2750 | ..... | 4 ⅛x5½ | 27.2 | L | Chic | FS | Strm | G | Mon | Bos | ..... | B-Li | ..... | U | 4 | Spic | ..... | ..... | W | ..... | ..... | 9.25 | 37 | Ros | ..... | ..... | ..... | ..... | 4600 | 165 |
| Sanford W-25-A. | .... | Cont C-4 | 4 ⅛x5¼ | 27.2 | L | MeC | F | Strm | G | Pier | Eis | ..... | B.B. | B-Li 35 | A | 4 | Spic | Shel | Shel D-370 | W | Shel 21 | ½ | 8.7 | 34.8 | Ros | 36x4 | 36x4† | Hoo | Fir | 4290 | 156 |
| Sanford W25 B. | .... | Cont C-4 | 4 ⅛x5¼ | 27.2 | L | MeC | F | Strm | G | Pier | Eis | ..... | B.B. | B-Li 35 | A | 4 | Spic | Shel | Shel D-370 | R | Shel-21 | ½ | 8.7 | 34.8 | Ros | 36x4 | 36x4† | Hoo | Fir | 5330 | 174 |
| Selden Unit 50. | 3250 | Cont K-4 | 4 ⅛x5¼ | 27.2 | L | Lng | F | Strm | G | Phar | Eis | ..... | B-Li | ..... | A | 4 | Spic | Per | ..... | W | ..... | F | 8.5 | 45.4 | Gem | 36x4 | 36x7 | Stn | ..... | 6100 | 149 |
| Selden Unit 31. | 3350 | Cont C-4 | 4 ⅛x5¼ | 27.2 | L | Lng | FS | Strm | G | Pier | Eis | Wes | B-Li | ..... | U | 4 | Spic | Per | ..... | W | ..... | ½ | 6 | 32 | Ros | 34x5 | 38x7 | MM | Opt | 4000 | 147 |
| Signal J. | .... | Cont K-4 | 4 ⅛x5¼ | 27.2 | L | Lng | FS | Strm | G | Sim | Eis | ..... | B-Li | ..... | A | 4 | Spic | Det | ..... | W | ..... | F | 9.25 | 37 | Ros | 34x4 | 36x8 | StM | ..... | 5250 | 150 |
| Signal JL. | .... | Cont K-4 | 4 ⅛x5¼ | 27.2 | L | Lng | FS | Strm | G | Sim | Eis | ..... | B-Li | ..... | A | 4 | Spic | Det | Tim 1542B | W | ..... | F | 9.25 | 37 | Ros | 34x4 | 36x8 | StM | ..... | 5300 | 180 |
| Standard 2¼-K | 2795 | Cont K-4 | 4 ⅛x5¼ | 27.2 | L | Lng | F | Strm | G | Sim | Eis | ..... | B-Li | B-Li 35 | A | 4 | Spic | Am | Tim 1542B | W | Tim 6560 | F | 8.5 | 45.4 | Ros | 36x4 | 36x8 | Day | ..... | 5400 | 147 |
| Standard 2½ KS | 2875 | Cont K-4 | 4 ⅛x5¼ | 27.2 | L | Lng | F | Strm | G | Sim | Eis | ..... | B-Li | B-Li-55 | A | 4 | Spic | Am | Tim 1542B | W | Tim 6560 | F | 9.25 | 49.5 | Ros | 36x4 | 36x8 | Day | ..... | 5488 | 147 |
| Sterling. | 3700 | Own | 4 ⅜x5¾ | 30.6 | L | Own | F | Zen | V | Wau | Eis | ..... | B-Li | B-Li 50 | U | 4 | Spic | Math | Tim 1542B | W | Tim 6560 | F | 7.7 | 41.19 | Ros | 36x4 | 36x4† | Pru | ..... | 5620 | 156 |
| Stewart 7X. | 2590 | Buda HTU | 4¼x5½ | 29 | L | Bus | F | Zen | G | Pier | Eis | ..... | Full | ..... | U | 4 | Hart | Am | ..... | I | ..... | D | 9. | 43.2 | Ros | 34x4† | 34x8 | Cla | Fir | 4860 | 156 |
| Super Truck 50. | 3300 | Wis. | 4 x6 | 25.6 | L | Chic | F | Zen | G | Sim | Bos | ..... | Full | Full G | U | 4 | Ther | Shel | ..... | W | Shel W-21 | ½ | 8.75 | 42 | Lav | 36x4 | 36x8 | Pru | ..... | 5200 | 156 |
| Tiffin MW. | 2700 | Cont C-4 | 4 ⅛x5¼ | 27.2 | L | Own | FS | Sheb | G | Pier | Bos | Wes | Full | Full GU | U | 4 | Pet | Vul | Shel D-370 | W | Shel W-21 | ½ | 8.7 | 41.7 | Ros | 36x4 | 36x3½† | Smi | ..... | 5125 | 148 |
| Titan 2. | .... | Buda GBU | 4 x5¼ | 25.6 | L | .... | F | Zen | G | Phar | Eis | ..... | B-Li | ..... | U | 4 | Spic | Math | ..... | I | ..... | D | 8 | 42 | Lav | 36x4 | 36x7† | Bim | ..... | 4400 | 156 |
| Tower H. | 2175 | Cont K-4 | 4 ⅛x5¼ | 27.2 | L | Own | S | Strm | G | Pier | Eis | ..... | Full | Full GU-7 | U | 3 | Spic | Det | Tim 1542B | W | Tim 6560 | F | 9.2 | 37 | Ros | 36x4 | 36x7 | Pru | Gdy | 5230 | 146 |
| Triangle B. | 2585 | Wau FU | 4 x5¾ | 25.6 | L | Whe | F | Strm | G | Wau | Eis | ..... | Full | Full GU-7 | U | 4 | UP | Det | Torb CC3B | I | Clark 2F | D | 9.1 | 43 | Gem | 36x4 | 36x7 | Roy | Fir | 4900 | 150 |
| Ultimate B. | 3750 | Buda ETU | 4¼x5½ | 28.9 | L | Own | F | Strm | G | Pier | Eis | Bos | B-Li | B-Li 50 | U | 4 | Spic | Shel | Shel D-370 | W | Shel W-21 | ½ | 7.75 | 30.2 | Ros | 36x4 | 36x8 | Jon | Fir | 5340 | 154 |
| Union FW & FLW | 3450 | Wis TAU | 4 x6 | 25.6 | L | GO | F | Sheb | G | Dup | Eis | LN | Full | Full GU-7 | U | 4 | UP | Math | Shel D-370 | R | Walk 25A | ... | 7.86 | 37.7 | Ros | 36x5 | 36x8 | Pru | ..... | 5900 | 155 |
| Union FWC (bus). | .... | Wis TAU | 4 x6 | 25.6 | L | GO | F | Sheb | G | Dup | Eis | LN | Full | Full GU 9 | U | 4 | UP | Math | Shut 650 | R | Walk 25A | ... | 7.86 | 37.7 | Ros | 38x7 | 42x9 | Nor | ..... | 5900 | 155 |
| United 50. | 1795 | Her O | 4 x5 | 25.6 | L | Per | FS | Zen | G | .... | Bos | ..... | B-Li | 22C-670 | U | 4 | Spic | ..... | ..... | R | Wis | ½ | 7. | 37.4 | Lav | 34x4 | 34x8 | ..... | ..... | 4700 | 156 |
| Velie 53. | 2185 | Her CU-3 | 4 x5⅛ | 25.6 | L | Own | F | Strm | G | Mon | Ber | ..... | B-Li | Durs | U | 3 | .... | Math | Col | I | Torb C-2 | D | 9.5 | 36.9 | Ros | 36x4 | 36x7 | Bim | Gdy | 3875 | 141 |
| Walter L. | 3800 | Own FU | 4 x5¾ | 25.6 | L | Bus | F | Strm | G | .... | Eis | Wes | B-Li | ..... | A | 4 | Own | ..... | ..... | R | ..... | F | 7.25 | 39 | Gem | 36x4 | 36x8 | ..... | ..... | 5800 | 168 |
| Ward La France 2B. | 3290 | ..... | 4⅜x5¾ | 30.6 | L | Own | F | Strm | G | ..... | Bos | ..... | B-Li | B-Li 50 | A | 4 | Spic | Row | Tim 1542B | W | Tim 6560 | F | 7.25 | 38.78 | Ros | 36x4 | 36x8‡ | Hoo | ..... | 5900 | 170 |
| Wilcox CC. | 3000 | Own | 4¼x5 | 28.9 | L | .... | S | Strm | G | Dup | Bos | ..... | Own | ..... | A | 4 | Own | Shel | ..... | R | ..... | ½ | 8.6 | 42.35 | Own | 36x4 | 36x3½† | ..... | ..... | 5000 | 135 |
| Wilson. | 2825 | Cont | 4 ⅛x5¼ | 27.2 | L | Lng | FS | Hol | G | Pier | Eis | ..... | B.B. | Cott R | A | 4 | Ther | Per | Tim 1540 | W | Tim 6560 | F | 7.75 | 31.3 | Ros | 36x4 | 36x7 | ..... | ..... | 4625 | 152 |
| Winter & Hirsch K. | 3250 | Cont K-4 | 4 ⅛x5¼ | 27.2 | L | Chic | F | Strm | V | Phar | Bos | ..... | B-Li | B-Li K 50 | A | 4 | Spic | Tut | Tim 1540B | W | Tim 6560 | F | 8.5 | 45.7 | Ros | 36x4 | 36x8 | Bim | ..... | 5200 | 152 |
| Winther 452. | 3775 | Wis TAU | 4 x6 | 25.6 | L | Brm | F | Strm | G | .... | Eis | Wes | Full | Full LTU-5 | U | 3 | Pet | Math | Own | I | Clark | D | 9 | 36 | Lav | 34x4 | 36x6 | Cla | ..... | 4300 | 150 |
| Wisconsin. | 3100 | Cont L-4 | 4½x5½ | 32.4 | L | Chic | FS | Strm | V | Phar | Eis | Bos | B-Li | ..... | A | 4 | Pet | Det | ..... | W | Tim 6560 | ½ | 9.25 | ..... | Lav | 36x5 | 36x10 | Bim | ..... | 5600 | 138 |
| Wisconsin (Six Wheel) | 3750 | Cont L-4 | 4½x5½ | 32.4 | L | Chic | FS | Strm | V | Phar | Bos | Bos | B-Li | B-Li 50 | U | 4 | Pet | Det | ..... | W | Wis | ½ | 8.25 | ..... | Lav | 32x6* | 32x6* | Bim | ..... | 5800 | 148 |
| Witt-Will S. | 2900 | Cont K-4 | 4⅛x5¼ | 27.2 | L | Own | FS | Zen | ... | Pier | Eis | ..... | B-Li | B-Li 50 | U | 4 | Spic | Shel | Tim 1542 | W | Tim 6560 | F | 8.25 | ..... | Ros | 36x6* | 40x8* | Arc | Fir | 5000 | 146 |
| **3 Ton** | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Ace 60. | .... | Mid 402 | 4⅛x5¼ | 27.2 | H | Own | F | Zen | V | Pier | Eis | Wes | B-Li | B-Li 51 | A | 4 | UM | Math | Tim 1542 | W | Tim 6560 | F | 8.5 | 45.5 | Ros | 36x4 | 36x8 | Day | Fir | 5650 | Op |
| Acme K (Bus). | .... | Cont L-4 | 4½x5½ | 32.4 | L | GO | FS | Zen | V | Dup | Eis | Del | B.B. | Cott RU | U | 4 | Spic | Bld | Tim 1540B | W | Tim 6511A | F | 6.8 | 35.36 | Ros | 36x6* | 36x5* | Bim | ..... | 6200 | 200 |
| Acme 60-L. | .... | Cont L-4 | 4½x5½ | 32.4 | L | GO | FS | Zen | V | Dup | Eis | Del | B.B. | Cott RU | U | 4 | Bld | Det | Tim 1540B | W | Tim 6560 | F | 8.5 | 42.2 | Ros | 36x4 | 36x7 | Bim | ..... | 5050 | 156 |
| Autocar H. | 3100 | Own | 4 x5½ | 25.6 | L | Own | S | Strm | G | Phar | .... | ..... | Own | Own | A | 4 | Spic | Del | Own | R | Own | F | 7.72 | 46.3 | Ros | 34x5 | 36x7 | Hoo | ..... | 5500 | 114 |
| Autocar K. | 3200 | Own | 4 x5½ | 25.6 | L | Own | S | Strm | G | Phar | .... | ..... | Own | Own | A | 4 | Spic | Del | Own | R | Own | F | 7.72 | 46.3 | Ros | 34x5 | 36x7 | Hoo | ..... | 5600 | 138 |
| Beimont E. | 3500 | Wis TAU | 4 x6 | 25.6 | L | Own | F | Zen | ... | Pier | Apo | Dy | B.B. | Cot AU | U | 3 | Spic | Math | Shel 550 | I | Russ UI400 | D | 9.45 | Opt. | Lav | 36x4 | 36x6 | E&O | Fir | 6000 | 160 |
| Buffalo Model Six. | .... | Her CU-3 | 4 x5⅛ | 25.6 | L | Own | F | Strm | V | Pier | Bos | Bos | Covt | Covt | ... | 10 | Spic | Shel | Shel D-370 | W | Shel W-21 | ½ | 8.75 | 70 | Ros | 34x5‡ | 36x5† | Jon | Gdy | 6200 | 155 |
| Concord BX. | 3600 | Buda HTU | 4¼x5½ | 28.9 | L | Bus | F | Zen | G | Mon | Eis | ..... | B-Li | ..... | U | 4 | Spic | Per | ..... | W | ..... | F | 9.25 | 37 | Ros | 36x4 | 36x8 | Arc | Fir | 5550 | 170 |
| Corbitt R-22. | 3195 | Cont L-4 | 4½x5½ | 32.4 | L | MeC | FS | Strm | V | Sim | Eis | ..... | B-Li | B-Li 50 | U | 4 | Hart | Shel | Shel 3FA10 | W | Shel W21 | ½ | 8.75 | 35 | Ros | 36x4 | 36x8 | Smi | ..... | 6160 | 158 |
| Defiance H-2. | .... | Cont K-4 | 4⅛x5¼ | 27.2 | L | Chic | F | Zen | V | Pier | Bos | Bos | Full | Full | U | 4 | Spic | Det | Col | R | L-M | ½ | 9. | ..... | Lav | 36x4 | 36x8 | St.M | ..... | ..... | 157 |
| Defiance HL2. | .... | Cont K-4 | 4⅛x5¼ | 27.2 | L | Chic | F | Zen | V | Pier | Bos | Bos | Full | Full | U | 4 | Spic | Det | Col | R | L-M | ½ | 9. | ..... | Lav | 36x4 | 36x8 | St.M | ..... | ..... | 175 |
| Denby 35. | 2975 | Cont K-4 | 4⅛x5¼ | 27.2 | L | Lng | F | Zen | G | Sim | Eis | ..... | Full | Full G–7 | A | 4 | UP | Det | ..... | I | Clark | D | 8.15 | 45.3 | Ros | 36x4 | 36x8 | Smi | Fir | 4500 | 155 |
| Dependable E. | 2950 | Buda HTU | 4¼x5½ | 28.9 | L | Lng | F | Zen | V | Mon | Spl | AuL | Full | Full G-9 | A | 4 | Acm | Per | Shul 550 | W | Wis 900C | ½ | 8.6 | 40 | Ros | 36x4 | 36x7 | Bim | Fir | 5800 | 165 |
| Fageol. | 3900 | Wau CU | 4⅜x5¾ | 30.6 | L | .... | F | Zen | V | Wau | Spl | ..... | B-Li | ..... | ... | 7 | Spic | Math | ..... | W | ..... | F | 5.6 | 59.5 | Ros | 36x4 | 36x7 | ..... | ..... | 4600 | 150 |
| Forschler E. | .... | Cont C-4 | 4 ⅛x5¼ | 27.2 | L | Own | FS | Zen | V | Dup | Bos | ..... | Full | ..... | U | 4 | Hart | Own | ..... | W | ..... | ..... | ..... | ..... | Ros | 36x4 | 36x8 | Smi | ..... | 5200 | 144 |
| F. W. D., B | 4200 | Wis A | 4¾x5½ | 36.1 | T | MeC | F | Strm | G | Pier | Eis | ..... | HS | Cott DAE | A | 3 | Bld | Tut | Own | B | Own | F | 8.9 | 35.6 | Ros | 36x6 | 36x6 | Sch | ..... | 6300 | 124 |
| Gramm-Pioneer 30. | 3300 | Hin HA 500 | 4¼x5½ | 28.9 | L | Own | F | Strm | G | Hin | Eis | NE | Own | Own | A | 4 | Own | Per | Own | W | Shel W-21 | ½ | 7.7 | 36.7 | Ros | 36x4 | 36x4† | Smi | Fir | 6640 | ... |
| Hurlburt B. | 3150 | Buda HU | 4½x5½ | 28.9 | L | Own | FS | Zen | G | Sim | Eis | ..... | B-Li | ..... | A | 4 | Spic | Per | ..... | W | Tim | F | 8.75 | 41.91 | Ros | 36x5 | 36x5† | ..... | ..... | 5600 | 170 |
| International 61. | .... | Own | 4¼x5 | 32.4 | L | Own | FS | Ens | G | Own | Spl | Own | Own | ..... | A | 4 | Own | ..... | ..... | I | ..... | D | 9 | 47.8 | Own | ..... | ..... | ..... | Own | 4800 | 138 |
| Maccar H2. | .... | Cont L-4 | 4½x5½ | 32.4 | L | Own | F | Zen | V | Pier | Eis | Bos | B-Li | B-Li 50 | U | 4 | Spic | Mer | Tim 1542B | W | Tim 6560 | F | 8.5 | 45.47 | Ros | 36x4 | 36x5† | Day | Fir | 5700 | 162 |
| Moreland AX. | 3500 | Cont L-4 | 4½x5½ | 32.5 | L | Own | F | Strm | V | ..... | Spl | ..... | Own | Own 22 C 670 | A | 5 | Pet | US | Tim 1542B | W | Tim 6560 | F | 6.8 | 40.93 | Ros | 36x5 | 36x10 | Smi | ..... | 6535 | 174 |
| PatriotWashingtonSpec | 3000 | Hin 200 | 4½x5½ | 32.4 | L | Own | F | Strm | V | ..... | Spl | ..... | Covt | Covt RAK 4 | A | 4 | Ther | Mar | Shul 510 | W | Wis Spec | ½ | 9.67 | 45.93 | Ros | 36x5 | 36x8 | Bim | Fir | 5200 | 156 |
| Perfection D. | 2875 | Cont K4 | 4 ⅛x5¼ | 27.2 | L | Own | FS | Zen | V | Phar | Eis | Rm | B.B. | Own RU | U | 4 | Spic | Own | Tim 1630B | W | Tim 6560 | F | 8.5 | 54.1 | Lav | 36x4‡ | 36x8‡ | Bim | Opt | 5900 | 158 |
| Pittsburgher C. | 3600 | Own | 4 ⅛x5¼ | 27.2 | T | GO | F | Strm | V | ..... | Bos | ..... | B-Li | B-Li 50 | U | 4 | Spic | IC | Vul 4F | W | Vul 4R | ... | 9.5 | 50.82 | Ros | 36x5 | 36x8 | Smi | ..... | 6400 | 162 |
| Republic 19. | 2195 | Con C-2 | 4 ⅛x5¼ | 27.2 | L | Own | FS | Strm | G | Phar | Bos | ..... | Full | ..... | U | 4 | Spic | Math | ..... | I | ..... | D | 8 | 38.4 | Jac | 36x4 | 36x7 | Nor | Fir | 4280 | 144 |
| Reynolds 23-B. | 3000 | Hin 500 | 4¼x5½ | 28.9 | L | Lng | F | Strm | V | Hin | Bos | Wes | B-Li | ..... | A | 4 | Spic | Am | ..... | W | ..... | ½ | 7.75 | 36.81 | Ros | 36x5 | 36x5† | Smi | Gdy | 6500 | 174 |
| Reynolds 23-C (Bus). | 3800 | Hin 500 | 4¼x5½ | 28.9 | L | Lng | F | Strm | V | Hin | Bos | Wes | B-Li | ..... | U | 3 | Spic | Am | ..... | R | ..... | ½ | 7 | 28.07 | Ros | 36x5 | 36x5† | Smi | Gdy | 5800 | 188 |
| Rowe GPW 3. | 5250 | H-Sp 8 VA | 3¼x5 | 33.8 | L | Fed | F | Zen | V | ..... | AtK | Wes | B-Li | B-Li 50 | U | 4 | Spic | Shel | Shel D-370 | W | Shel W-21 | ½ | 7.7 | 31 | Ros | 38x7* | 42x9* | Hoo | ..... | 5500 | 170 |
| Rowe GSW3. | 4150 | Wis TAU | 4x 6 | 25.6 | L | Fed | F | Zen | G | Sim | Bos | ..... | B-Li | B-Li 50 | U | 4 | Spic | Shel | Shel D-370 | W | Shel W-21 | ½ | 7.7 | 31 | Ros | 36x5 | 36x5† | Hoo | ..... | 5900 | 162 |
| Schacht. | 3800 | Wis UAU | 4¼x6 | 28.9 | L | Own | F | Zen | G | Dup | Bos | ..... | B.B. | Own | A | 4 | Spic | Nat | Own | W | Own | F | 9.66 | 46 | Own | 36x5 | 36x5† | StM | ..... | 6700 | 156 |
| Service 52. | .... | Buda HU | 4¼x5½ | 28.9 | L | MeC | F | Strm | V | ..... | Eis | ..... | B.B. | B-Li 50 | A | 4 | M-E | Shel | Tim 1542 | W | Tim 6560 | F | 7.75 | 37.5 | Ros | 36x4 | 36x8 | Bim | ..... | 5180 | 160 |
| Stoughton F. | 3150 | Mid 402 | 4⅛x5¼ | 27.2 | H | Own | F | Zen | G | ..... | Eis | ..... | B-Li | B-Li 50 | U | 4 | Ther | Own | Shel D-370 | W | Shel W-21 | ½ | 8.75 | 46.8 | Ros | 36x5 | 36x5† | Roy | Gdy | 5900 | 156 |
| Traffic 6000. | 1895 | Cont N-4 | 3¾x5 | 22.5 | L | Own | FS | Cart | G | ..... | Bos | ..... | Covt | Covt MUNC | U | 3 | Ther | Det | Own | I | Russ 6000I | D | 8.8 | 32.2 | Own | 36x4 | 36x7 | Opt | Fir | 3900 | 135 |
| Transport 55. | .... | Cont C-2 | 4 ⅛x5¼ | 27.2 | L | Mod | FS | Strm | G | Dup | Eis | Opt | Full | ..... | U | 4 | Hart | Det | ..... | I | ..... | F | 8.15 | 39.12 | Jac | 36x4 | 36x8 | Mot | ..... | 5000 | 150 |
| Traylor D. | 3300 | Buda HTU | 4¼x5½ | 28.9 | L | GO | F | Zen | G | Pier | Spl | ..... | M-E | Own D-40 | U | 4 | M-E | Mer | Shel D-343 | W | Shel W-21 | ½ | 7.7 | ..... | Ros | 36x4 | 36x8 | Sch | ..... | 5850 | 150 |
| Ultimate BL. | 3850 | Buda ETU | 4¼x5½ | 28.9 | L | Own | F | Strm | G | Pier | Eis | Bos | B-Li | B-Li 50 | A | 4 | Spic | Shel | ..... | W | ..... | ½ | 7.75 | 30.2 | Ros | 36x4 | 36x8 | Jon | Fir | 5590 | 178 |
| U. S., R. | 2675 | Own | 4 x5¼ | 25.6 | L | Lng | F | Strm | V | Own | Eis | Opt | B-Li | B-Li 35 | A | 4 | Opt | Shel | Shel D-343 | W | Shel W-21 | ½ | 8.7 | 41.5 | Lav | 36x4 | 36x4† | Sch | ..... | 5500 | 156 |
| Winther 51. | 3175 | Wis TAU | 4 x6 | 25.6 | L | Brm | F | Mas | V | ..... | Eis | Wes | B.B. | B-Li 55 | A | 4 | Bld | Math | Torb | I | Clark | D | 8 | 40 | Ros | 36x4 | 36x4† | Own | ..... | 5300 | 150 |
| Witt-Will. | 3175 | Cont K4 | 4½x5¼ | 27.2 | L | Brm | F | Mas | V | Phar | Eis | Wes | B.B. | B-Li 55 | U | 4 | Bld | Math | Tim | W | Tim | ... | 8 | 40 | ..... | 36x4 | 36x10 | ..... | ..... | ..... | 168 |
| **3½ Ton** | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Acason A-4. | .... | Wau | 4⅜x5¾ | 30.6 | ... | ..... | ... | Zen | V | Wau | ..... | ..... | ..... | ..... | U | 4 | Bld | ..... | Tim | W | Tim 6666 | F | 5.2 | 54. | Ros | 36x5 | 36x12 | ..... | ..... | ..... | 180* |
| Acme 90. | ..... | Cont L-4 | 4½x5½ | 32.4 | L | GO | FS | Zen | V | Dup | Eis | Del | B.B. | Cott S | A | 4 | Bld | Det | Tim 1630B | W | Tim 6660 | F | 10.33 | 53.72 | Ros | 36x5 | 40x5† | Bim | ..... | 6983 | 168 |
| American LaFrance 3R | .... | Own | 4¼x6 | 28.9 | L | Bus | FS | Strm | ... | Own | .... | Wes | Own | Own | A | 4 | Own | Mer | Own | W | Own | ... | 7.8 | 42.8 | Own | 36x5‡ | 36x10‡ | Day | ..... | ..... | 165 |

| TRADE NAME AND MODEL | Chassis Price | ENGINE DETAILS: Make and Model Number (4 cylinder unless otherwise noted.) | Bore and Stroke | N.A.C.C. Horsepower | Valve Arrange't | Radiator (Make) | Lubrication | Carburetor | Fuel Feed | Governor (Make) | Ignition System | Engine Starter | Clutch (Make) | GEARSET: Make and Model Number | Location | Speeds | Universal (Make) | Springs (Make) | FRONT AXLE and Model Number | REAR AXLE: Final Drive | Make and Model Number | Type | Total Gear Reduction in High | Total Gear Reduction in Low | Steering Gear (Make) | TIRES, WHEELS, RIMS: *Pneumatic †Dual ‡Solid — Front | Rear | Wheels (Make) | Rim Equipment | Chassis Weight (Stripped) | Wheelbase |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | 1 | | | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | | 13 | 14 | 15 | 16 | 17 | 18 | | | 19 | | | 20 | 21 | | |
| **3½ Ton—Con'd** | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Armleder KWB | 4200 | Buda YTU | 4½x6 | 32.4 | L | Own | F | Zen | G | Phar | Bos | ..... | B-Li | B-Li 50 | U | 4 | Spic | Math | Tim 1630B | W | Tim 6660 | F | 10.33 | 55.25 | Ros | 36x5 | 36x5† | StM | ..... | 6900 | 156 |
| Armleder KWC | 4200 | Cont E-4 | 4½x5½ | 32.4 | L | Own | S | Zen | G | Phar | Bos | ..... | B-Li | B-Li 50 | U | 4 | Spic | Math | Tim 1630B | W | Tim 6660 | F | 10.33 | 55.25 | Ros | 36x5 | 36x5† | StM | ..... | 6900 | 156 |
| Atterbury 22DX Short | 4375 | Cont L-4 | 4½x5½ | 32.4 | L | Own | F | Zen | V | Pier | Eis | ..... | B-Li | B-Li 55 | A | 4 | Spic | SP | Tim 1630B | W | Tim 6666 | F | 10.33 | 55.26 | Gem | 36x5 | 40x6† | Arc | ..... | 7500 | 150 |
| Atterbury 22D Std | 4275 | Cont L-4 | 4½x5½ | 32.4 | L | Own | F | Zen | V | Pier | Eis | ..... | B-Li | B-Li 55 | A | 4 | Spic | SP | Tim 1630B | W | Tim 6666 | F | 10.33 | 55.26 | Gem | 36x5 | 40x6† | Arc | ..... | 7500 | 174 |
| Atterbury 22D LWB | 4375 | Cont L-4 | 4½x5½ | 32.4 | L | Own | F | Zen | V | Pier | Eis | ..... | B-Li | B-Li 55 | A | 4 | Spic | SP | Tim 1630B | W | Tim 6666 | F | 10.33 | 55.26 | Gem | 36x5 | 40x6† | Arc | ..... | 7500 | 198 |
| Available H | 4175 | Her MU-3 | 4½x5½ | 32.4 | L | Chic | FS | Strm | V | Pier | Bos | ..... | B-Li | B-Li 50 | A | 4 | M-E | Tut | Tim | W | Tim 6666 | F | 10.33 | 49.99 | Ros | 36x5 | 40x5† | Sch | ..... | 6500 | 176 |
| Bethlehem HN | 2985 | Own | 4 x5¼ | 25.6 | L | GO | F | Zen | V | Pier | Bos | GD | Full | Full GU-7 | U | 4 | UP | Math | Shel D-343 | R | Wis 88E | ½ | 8.67 | 41.56 | Lav | 36x4 | 36x8 | ... | ..... | 5250 | 145 |
| Brockway R | .... | Cont L-4 | 4½x5½ | 32.4 | L | Bus | F | Strm | V | Phar | Eis | ..... | B-Li | B-Li 55 | A | 4 | Spic | Mer | Tim 1630B | W | Tim 6666 | F | 8.75 | 46.8 | Gem | 36x5 | 36x5† | Smi | ..... | 6800 | 164 |
| Chicago C | .... | Her MU-3 | 4½x5½ | 32.4 | L | Brm | FS | Strm | G | Sim | Bos | ..... | B-Li | B-Li 50-4 | A | 4 | Pet | Math | Tim 1630 | R | Huck 35 | F | 9.33 | 50 | Gem | 36x5 | 36x10 | Opt | ..... | 7200 | 170 |
| Clydesdale 6 | .... | Cont L-4 | 4½x5½ | 32.4 | L | Own | F | Zen | V | Own | Bos | ..... | B-Li | B-Li 50 | A | 4 | Spic | Stan | Tim 1542B | W | Tim 6560 | F | 9.25 | 49.5 | Ros | 36x5 | 36x5† | ..... | ..... | ..... | 163 |
| Day-Elder FN | .... | Cont L-4 | 4½x5½ | 32.4 | L | Bus | F | Zen | G | Mon | Eis | ..... | B-Li | B-Li 50 | U | 4 | Hart | Shel | Col 8513 | W | Tim | F | 8.75 | 46.81 | Gem | 36x5 | 36x5† | Jon | Fir | 5600 | 165 |
| Dependable G | 3550 | Buda YTU | 4½x6 | 32.4 | L | Lng | F | Zen | V | Mon | Spl | AuL | Full | ..... | A | 4 | Acm | Per | ..... | W | ..... | ½ | 10 | 47.61 | Ros | 36x6 | 36x10 | Bim | Fir | 6000 | 165 |
| Diamond T-K | .... | Hin | 4¼x5½ | 28.9 | L | GO | F | Strm | V | Own | Bos | ..... | Covt | ..... | A | 4 | Spic | Math | ..... | W | ..... | F | 8.8 | 44.36 | Gem | 36x5 | 36x5† | ..... | ..... | 7250 | 170 |
| Dixon | 4070 | Cont L-4 | 4½x5½ | 32.4 | L | GO | FS | Zen | G | Pier | Bos | ..... | Full | Full HU | U | 4 | Hart | SP | Tim 1630B | W | Tim 6666 | F | Opt | Opt | Ros | 36x5 | 36x10 | Smi | ..... | 7100 | 160 |
| Dorris K7 | 4400 | Own | 4¼x5½ | 28.9 | H | McC | F | Strm | G | Own | Bos | Wes | Own | W-Gr T53 | A | 4 | Spic | Row | Tim 1630 | W | Tim 6660 | F | 10.33 | 51.5 | Ros | 36x5 | 36x10 | Smi | Fir | 6750 | 194 |
| Duplex E (f. w. d.) | .... | Buda | 4¼x5½ | 28.9 | L | Lng | FS | Sheb | V | Dup | Eis | ..... | B-Li | B-Li | U | 4 | Pet | Pen | ..... | I | Own | .. | 8 | 64 | Woh | 36x8* | 36x8 | Mot | Fir | 6000 | 130 |
| Gary KT | 3950 | Buda YTU | 4½x6 | 32.4 | L | Chic | F | Zen | V | McC | Eis | ..... | B-Li | ..... | A | 4 | Spic | Math | ..... | W | ..... | F | 10.33 | 50 | Ros | 36x5 | 40x10 | Pru | ..... | 7500 | 162 |
| G. M. C. K-71A | .... | Own | 4½x6 | 32.4 | L | Own | F | Mar | G | Own | Sim | Opt | Own | Own | A | 7 | Own | Det | Tim 1630 | W | Tim 6660 | F | 8.75 | 75.2 | Own | 36x5 | 40x5† | Own | ..... | 7945 | 163 |
| G. M. C. K-71B | .... | Own | 4½x6 | 32.4 | L | Own | F | Mar | G | Own | Sim | Opt | Own | Own | A | 7 | Own | Det | Tim 1630 | W | Tim 6660 | F | 8.75 | 75.2 | Own | 36x5 | 40x5† | Own | ..... | 8070 | 187 |
| G. M. C. K-71T | .... | Own | 4½x6 | 32.4 | L | Own | F | Mar | G | Own | Sim | Opt | Own | Own | A | 7 | Own | Det | Tim 1630 | W | Tim 6660 | F | 10.33 | 88.83 | Own | 36x5 | 40x12 | Own | ..... | 7885 | 138 |
| Gramm-Pioneer 75P | 4225 | Hin HA 200 | 4½x5½ | 32.4 | L | Own | F | Strm | G | Hin | Eis | NE | Own | ..... | A | 4 | Own | Per | ..... | W | Shel W-21 | ½ | 9.5 | 45 | Ros | 36x6* | 42x9* | Smi | ..... | 6000 | ... |
| Hal-Fur F | 4000 | Hin AA 200 | 4½x5½ | 32.4 | H | GO | F | Zen | V | Hin | Bos | Wes | B.B. | Own 60 | A | 4 | Pet | Mer | Tim 1630 | W | Tim 6660 | F | 10.33 | 72 | Gem | 36x5 | 40x12 | Smi | ..... | 6500 | 180 |
| Harvey WHB | 3950 | Buda YTU | 4½x6 | 32.4 | L | Own | F | Strm | G | McC | Spl | ..... | Full | B-Li 60 | A | 4 | Spic | Bea | Shel 4FA20 | W | Shel W-32 | ½ | 8.75 | 46.8 | Ros | 36x6 | 36x12 | Smi | ..... | 7600 | 160 |
| Hawkeye N | .... | Buda | 4½x6 | 32.4 | .. | .... | F | Zen | .. | Sim | Eis | ..... | Ful | Cott | A | 4 | ..... | ..... | ..... | ... | Clark | D | ..... | ..... | ..... | 36x5† | 36x10† | ..... | ..... | ..... | 180 |
| Hendrickson M | 3725 | Buda EBU | 4¼x5½ | 28.9 | L | Chic | F | Strm | G | McC | Spl | ..... | Full | Full G-7 | A | 4 | Ther | Mar | Tim 1630 | W | Tim 6666 | F | 10 | 49.6 | Ros | 36x5 | 36x5 | Stn | ..... | ..... | Op |
| Hewitt-Ludlow | .... | Buda HU | 4¼x5½ | 28.9 | L | Mod | F | Strm | V | ..... | Bos | ..... | B-Li | ..... | U | 4 | Spic | ..... | Shel | W | Shel | ½ | ..... | ..... | Ros | 36x5‡ | 36x5† | Stn | ..... | ..... | 150 |
| Indiana 35 | .... | Own 40 | 4⅜x5½ | 30.6 | L | McC | F | Strm | G | Pier | Eis | ..... | B.B. | B-Li 55 | A | 4 | Spic | Shel | Shel FA20 | W | Shel W-31 | ½ | 10.2 | 54.84 | Woh | 36x5 | 36x10 | Smi | ..... | 7050 | 160 |
| Jackson B | 3850 | Cont E-4 | 4½x5½ | 32.4 | L | Lng | FS | Strm | V | Pier | Eis | Dy | B.B. | ..... | A | 4 | Spic | Per | ..... | B | ..... | F | 9.2 | 43.49 | Ros | 36x7 | 36x7 | ..... | ..... | 7400 | 166 |
| Kalamazoo SK | 4000 | Wis UAU | 4¼x6 | 28.9 | L | GO | F | Strm | V | Pier | Bos | Dy | Full | Full | A | 4 | Bld | Shel | Shel 4FA20 | W | Shel | ½ | 10.25 | 61.5 | Ros | 36x5 | 36x12 | Smi | ..... | 7520 | 100 |
| Kell-Springfield K-40 | 3900 | Own | 4½x6½ | 32.4 | T | Lng | F | Zen | G | Pier | Eis | Del | B.B. | ..... | A | 3 | ..... | Per | ..... | C | ..... | D | 10.49 | 31.69 | Gem | 36x5 | 40x5† | StM | ..... | 7730 | Op |
| Kelly-Springfield K-41 | 3900 | Own | 4½x6½ | 32.4 | T | Lng | F | Zen | G | Pier | Eis | Del | B.B. | ..... | A | 4 | Pet | Per | ..... | I | ..... | D | 10 | 50.7 | Gem | 36x6 | 36x10 | Cla | ..... | 7800 | Op |
| Kelly-Springfield K-42 | 3900 | Own | 4½x6½ | 32.4 | T | Lng | F | Zen | G | Pier | Eis | Del | B.B. | ..... | A | 4 | Pet | Per | ..... | W | ..... | ½ | 10.25 | 51.97 | Gem | 36x5 | 40x5 | Smi | ..... | 8500 | Op |
| Kenworth L | .... | Buda YTU | 4½x6 | 32.4 | L | Idl | F | Strm | V | Mon | Bos | ..... | B.B. | Cott S | A | 4 | Bld | Tut | Shel W-32 | W | Shel W-32 | .. | 10.2 | 53.3 | Ros | 36x5 | 40x12 | Smi | ..... | 8050 | 170 |
| Kleiber C | 4470 | Cont L-4 | 4½x5½ | 32.4 | L | RT | FS | Strm | G | Sim | Bos | ..... | ..... | ..... | A | 4 | Spic | Mer | ..... | W | ..... | F | 8.75 | 42.35 | Ros | 36x5 | 36x10 | Smi | ..... | 7200 | 163 |
| Larrabee L-4 | 4000 | Cont L-4 | 4½x5½ | 32.4 | L | R-T | S | Zen | G | Phar | Bos | ..... | B-Li | B-Li 55 | A | 4 | Spic | Mer | Shel 4FA20 | W | Shel W-31 | ½ | 10.25 | 55 | Ros | 36x5 | 36x10 | Smi | ..... | 7600 | 186 |
| Mack AC | 4950 | Own AC | 5 x6 | 40 | L | Own | S | Zen | G | Own | Spl | ..... | Own | ..... | J | 4 | Spic | Mer | ..... | C | ..... | D | 7.54 | 48.37 | Own | 36x5 | 40x5† | ..... | ..... | 8070 | Op |
| Master 51 | 4600 | Cont B5 | 4⅜x6 | 36.1 | L | Chic | FS | Strm | V | Phar | Eis | Bos | B-Li | B-Li | U | 4 | Pet | Det | Tim | W | Wis | ½ | 8.25 | ..... | Lav | 34x7 | 34x7 | Bim | Gdy | 7000 | ... |
| Menominee G | 3800 | Wis VAU | 4½x6 | 32.4 | L | Own | FS | Strm | G | Mon | Eis | Opt | Det | ..... | A | 4 | Spic | Spic | Tut | W | ..... | F | 10.3 | 53.71 | Ros | 36x5 | 36x10 | Smi | Fir | 6750 | 160 |
| Nelson & LeMoon G 4 | .... | Cont L-4 | 4½x5½ | 32.4 | L | Chic | F | Strm | G | Phar | Bos | Bos | B-Li | B-Li 50 | A | 4 | Own | GC | Tim 1630 | W | Tim 6666 | F | 8.7 | 42 | Ros | 36x5 | 36x5† | StM | Gdy | 6000 | Op |
| Noble E-71 | 3850 | Buda YTU | 4½x6 | 32.4 | L | Chic | F | Strm | V | Pier | Eis | Wes | Full | W Gr T 53 | A | 4 | M-E | ..... | Shel 4FA20 | W | Shel W-30 | ½ | 8.75 | 44 | Lav | 36x5 | 36x10 | Bim | Fir | 7200 | 182 |
| Northway B3 | 4200 | Own | 4 x6 | 25.6 | H | GO | F | Strm | V | Pier | Wag | Bj | Full | Full GU8 | A | 4 | Spic | Per | Shel 4FA20 | W | Shel W30 | ½ | 10 | 49.2 | Ros | 36x5 | 40x5† | Cla | Fir | 7700 | Op |
| Ogden F | .... | Cont L-4 | 4½x5½ | 32.4 | L | Chic | F | Zen | G | Pier | Spl | ..... | B-Li | ..... | A | 4 | M-E | Tut | ..... | W | ..... | F | 10.33 | ..... | Ros | 36x5 | 40x10 | Stn | ..... | 7300 | 178 |
| O.K | 3975 | Buda YTU | 4½x6 | 32.4 | L | R-T | FS | Zen | V | Pier | Eis | ..... | Full | ..... | A | 4 | Hart | Cham | ..... | W | ..... | ½ | 10 | 60 | Ros | 36x5* | 36x5† | Bim | ..... | 6350 | 164 |
| Old Reliable C | 4250 | Wis VAU | 4½x6 | 32.4 | L | Chic | F | Strm | V | Phar | Bos | ..... | Full | Full H | A | 4 | Pet | Shel | Shel 4FA20 | W | Shel W-32 | ½ | 8.75 | 55.1 | Ros | 36x5 | 36x12 | Sch | ..... | 7000 | Op |
| Oneida D | 4050 | Hin 200 | 4½x5½ | 33.5 | L | Mod | F | Strm | V | Hin | Apo | ..... | Full | ..... | A | 4 | Pet | Math | ..... | W | ..... | F | 10.33 | 49.6 | Ros | 36x5 | 36x10 | Smi | ..... | 7700 | 170 |
| Packard ED | 4100 | Own | 4½x5½ | 32.4 | L | ..... | F | Own | P | Own | Spl | Bj | Own | Own | A | 4 | Spic | ..... | Own | W | Own | F | 9 | 41.3 | Own | 36x5 | 36x5 | ..... | ..... | 7350 | 156 |
| Parker J-20 | 3950 | Wis VAU | 4½x6 | 32.4 | L | Own | F | Strm | V | Pier | Eis | Wes | B-Li | W-Gr T53 | A | 4 | Bld | ..... | Shul 610 | W | Own | F | 8.75 | 43.6 | Ros | 36x5 | 40x5† | Smi | ..... | 6550 | 160 |
| Perfection E | 2975 | Cont K-4 | 4¼x5¼ | 27.2 | L | Own | FS | Zen | V | Phar | Eis | Rm | B.B. | Own RU | A | 4 | Spic | Own | Tim 1630B | W | Tim 6560 | F | 9.5 | 63 | Lav | 38x7 | 42x9 | Bim | Fir | 5700 | 138 |
| Pierce Arrow W-2 | 4350 | Own | 4½x6¾ | 32.4 | T | Own | F | Strm | .. | Own | Del | ..... | Own | Own | A | 4 | Spic | SP | Own | W | Own | F | 8 | 49 | ..... | 36x5 | 36x5† | Day | ..... | 8350 | 162 |
| Pittsburgher D | 3800 | Own | 4¼x5¼ | 27.2 | T | GO | F | Strm | V | ..... | Bos | ..... | B-Li | B-Li 50 | U | 4 | Spic | ..... | Vul 4F | W | Vul 4R | .. | 9.5 | 50.82 | Ros | 36x5 | 36x10 | Smi | ..... | 6600 | 162 |
| Power C | 4200 | Hin HA-200 | 4½x5½ | 32.4 | L | GO | F | Zen | G | Hin | Eis | Wes | B-Li | ..... | A | 4 | Pet | Row | ..... | W | ..... | ½ | 10 | 48 | Ros | 36x5 | 40x10 | StM | ..... | 7400 | 160 |
| Rainier R-25 | 4400 | Cont L-4 | 4½x5½ | 32.4 | L | EM | F | Zen | V | Pier | Eis | ..... | B-Li | B-Li 60 | A | 4 | Spic | SP | Tim 1632B | W | Tim 6666 | F | 10.33 | 55.26 | Ros | 36x5 | 36x5† | Jon | ..... | 8000 | 170 |
| Sandow | 3695 | ..... | ..... | ..... | ... | ..... | ... | ..... | ... | ..... | ..... | ..... | ..... | ..... | ... | .. | ..... | ..... | ..... | W | ..... | ... | 1025. | 41.25 | Ros | ..... | ..... | ..... | ..... | 6800 | 172 |
| Sanford W35B | .... | Cont E-4 | 4½x5½ | 32.4 | L | McC | F | Strm | G | Pier | Eis | ..... | B.B. | B-Li 50 | A | 4 | Spic | Shel | Shel 4FA10 | W | Shel 31 | ½ | 7.8 | 34.8 | Ros | 36x5 | 36x5† | Hoo | Fir | 6750 | 174 |
| Sanford W-35D | .... | Cont E-4 | 4½x5½ | 32.4 | L | McC | F | Strm | G | Pier | Eis | ..... | B.B. | B-Li 55 | A | 4 | Spic | Shel | Shel 4FA10 | W | Shel 31 | ½ | 8.7 | 34.8 | Ros | 36x5 | 36x5† | Hoo | Fir | 6710 | 156 |
| Selden Unit 70 | 4175 | Cont L4 | 4½x5½ | 32.4 | L | Lng | F | Strm | G | Phar | Eis | ..... | B-Li | ..... | A | 4 | Spic | Per | ..... | W | ..... | F | 8.75 | 42.35 | Gem | 36x5 | 36x10 | Stn | ..... | 7200 | 165 |
| Selden Unit 52 | 4850 | Cont L-4 | 4½x5½ | 32.4 | L | Lng | F | Zen | V | Phar | Eis | NE | B-Li | B-Li | A | 4 | Spic | SS | ..... | W | Tim | F | 7.75 | 31 | Gem | 36x5 | 36x5 | Arc | Opt | 7200 | 195 |
| Selden Unit 53 | 3550 | Cont L-4 | 4½x5½ | 32.4 | L | Lng | F | Strm | G | Phar | Eis | ..... | B-Li | B-Li | A | 4 | Spic | Per | ..... | W | Tim | F | 8.5 | 45.4 | Gem | 36x4 | 36x7 | Stn | Opt | 6200 | 154 |
| Service 72 | .... | Buda HU | 4¼x5½ | 28.9 | L | McC | F | Strm | V | ..... | Eis | ..... | B.B. | B-Li 60 | A | 4 | Spic | Shel | Tim 1630 | W | Tim 6660 | F | 8.75 | 42.35 | Ros | 36x5 | 36x5½† | Stn | ..... | 6930 | 171 |
| Signal M | .... | Cont L-4 | 4½x5½ | 32.4 | L | Lng | FS | Strm | G | Sim | Eis | ..... | B-Li | ..... | A | 4 | Spic | Det | ..... | W | ..... | F | 12 | 58.08 | Ros | 36x5 | 40x10 | StM | ..... | 7350 | 168 |
| Signal ML | .... | Cont L-4 | 4½x5½ | 32.4 | L | Lng | FS | Strm | G | Sim | Fis | ..... | B-Li | ..... | A | 4 | Spic | Det | ..... | W | ..... | F | 12 | 58.08 | Ros | 36x5 | 40x10 | StM | ..... | 7700 | 204 |
| Standard 3½-K | 3645 | Cont L-4 | 4½x5½ | 32.4 | L | Lng | F | Strm | V | Sim | Eis | ..... | B-Li | B-Li 55 | A | 4 | Spic | Am | Tim 1630B | W | Tim 6666 | F | 10.3 | 55.1 | Gem | 36x5 | 36x12 | Day | ..... | 7485 | 160 |
| Standard 3½ KS | 3725 | Cont L-4 | 4½x5½ | 32.4 | L | Lng | F | Strm | V | Sim | Eis | ..... | B-Li | B-Li 60 | A | 4 | Spic | Am | Tim 1630B | W | Tim 6666 | F | 10.3 | 55.1 | Gem | 36x5 | 36x12 | Day | ..... | 7519 | 160 |
| Sterling | 4750 | Own | 4½x6¼ | 32.4 | L | Own | F | Zen | V | Wau | Eis | ..... | H-S | Own | A | 3 | Spic | Math | Tim 1630B | W | Tim 6666 | F | 8.75 | 39.5 | Ros | 36x5 | 40x5† | Pru | ..... | 7925 | 162 |
| Stewart 10-X | 3440 | Buda YTU | 4½x6 | 32 | L | Bus | F | Zen | G | Pier | Eis | ..... | Full | ..... | U | 3 | Hart | Det | ..... | I | ..... | D | 10 | 48.01 | Ros | 36x5† | 36x5† | Cla | Fir | .... | 165 |
| Super Truck 70 | 4100 | Wis | 4¼x6 | 28.9 | L | Chic | F | Zen | G | Sim | Bos | ..... | Full | Full H | A | 4 | Spic | Shel | ..... | W | Shel W-31 | ½ | 10.25 | 49.2 | Ros | 36x5 | 40x5† | Smi | ..... | 7500 | 164 |
| Tiffin F-35 | 3600 | Cont L-4 | 4½x5½ | 32.4 | L | Own | F | Strm | G | Pier | Bos | Wes | Det | Cott R | A | 4 | Pet | Vul | Shel 4FA20 | W | Shel W-31 | ½ | 8.7 | 44.5 | Ros | 36x5 | 40x5† | Smi | ..... | 7800 | 160 |
| Titan | 3600 | Buda EBU | 4¼x5½ | 28.9 | L | ..... | F | Zen | G | Phar | Eis | ..... | B.-Li | B-Li | U | 4 | Spic | Math | ..... | I | ..... | D | 9 | 48 | Lav | 36x5 | 40x10 | Smi | ..... | 6200 | 156 |
| Tower G | 3175 | Cont L-4 | 4½x5½ | 32.4 | L | Own | S | Zen | .. | Pier | Eis | ..... | Full | Full GU-7 | U | 4 | Spic | Det | Tim 1630B | W | Tim 6666 | F | 10.33 | 50 | Ros | 36x5 | 36x5† | Pru | Gdy | 7310 | 165 |
| Transport 60 | 2585 | Buda HTU | 4¼x5½ | 28.9 | L | Mod | F | Strm | G | Dup | Eis | Opt | Full | ..... | A | 4 | Hart | Det | ..... | I | ..... | F | 8.15 | 39.12 | Jac | 36x4 | 36x8 | Mot | ..... | 5400 | 150 |
| Twin City | 3500 | Own | 4¼x6 | 28.9 | H | Spli | F | Strm | V | Own | Bos | ..... | B.B. | Full G5 | U | 4 | Spic | Math | Tim 1630B | W | Tim 6652 | .. | 10.33 | 49.58 | Ros | 36x5 | 40x5 | Smi | ..... | 6800 | 168 |
| United C | .... | Buda ETU | 4¼x5½ | 28.9 | L | Mod | F | Zen | G | ..... | Eis | ..... | Full | Full | A | 4 | Spic | Shel | ..... | W | Shel | D | 10.25 | 48.1 | Lav | 36x5 | 40x5† | Cla | ..... | 6700 | 157 |

| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Ward La France 4A | 4290 | | 4½x6¼ | 32.4 | L | Own | F | Strm | G | | Bos | | B-Li | B-Li 60 | A | 4 | Spic | Row | Tim 1630B | W | Tim 6666 | F | 7.8 | 41.73 | Ros | 36x5 | 36x5† | Smi | | 7750 | 162 | | | | | | | |
| Watson N | 3840 | Cont E-4 | 4½x5½ | 32.4 | L | RT | FS | Strm | G | Pier | Sim | | B-Li | | A | 4 | Spic | Shel | | W | | ½ | 9 | 43.56 | Gem | 36x5 | 36x10 | C&M | | 7270 | 174 | | | | | | | |
| White 40 | 4200 | OwnG N | 3¾x5¾ | 22.5 | L | | F | Zen | V | Own | | | Own | Own GMC | U | 4 | Own | | Own | R | Own | F | 11.6 | 47.85 | Own | 36x5 | 40x5† | | | 7300 | 174 | | | | | | | |
| Wilcox E | 3950 | Buda .. | 4½x6 | 32.4 | L | | S | Strm | G | Dup | Bos | | Own | | A | 4 | Own | Shel | | R | | ½ | 10 | 45.1 | Own | 36x5 | 36x5† | | | 6600 | 147 | | | | | | | |
| Wilson E | 3685 | Cont | 4½x5½ | 28.9 | L | Lng | FS | Hol | V | Pier | Eis | | B.B. | Cott R | A | 4 | K-B | Per | Tim 1630 | W | Tim 6660 | F | 8.75 | 42.35 | Ros | 36x5 | 36x5† | Smi | | 6800 | 160 | | | | | | | |
| Wilson G | 3685 | Cont | 4½x5½ | 28.9 | L | Lng | FS | Hol | V | Pier | Eis | | B.B. | Cott R | A | 4 | K-B | Per | Tim 1630 | W | Tim 6660 | F | 8.75 | 42.35 | Ros | 36x5 | 36x5† | Smi | | 6800 | 160 | | | | | | | |
| Winter & Hirsch L | 4200 | Cont L-4 | 4½x5½ | 32.4 | L | Chic | F | Strm | V | Phar | Bos | | B-Li | B-Li 51 | A | 4 | Spic | Tut | Tim 1630 | W | Tim 6666 | F | 10.3 | 55.3 | Ros | 36x5 | 36x10 | Bim | | 6500 | 178 | | | | | | | |
| Winther 70 | 3650 | Wis UAU | 4¼x6 | 25.6 | L | Brm | F | Mas | V | | | | B.B. | B-Li 55 | A | 4 | Bld | Math | Tim | I | Clark | D | 9 | 36 | Ros | 36x5 | 36x5† | Cla | Fir | 6400 | 150 | | | | | | | |
| Wisconsin (Six-Wheel) | .... | Buda YTU | 4½x6 | 32.4 | L | Chic | F | Zen | V | Pier | Eis | | B-Li | B-Li | A | 4 | Spic | Det | | W | Tim | F | Opt | Opt | Ros | 36x5 | 40x10 | Smi | | 8000 | 158 | | | | | | | |
| **4 Ton** | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Acme 90L | .... | Cont B-5 | 4¾x6 | 36.1 | L | GO | FS | Zen | V | Dup | Eis | Del | B.B. | Cott S | A | 4 | Bld | Det | Tim 1630B | W | Tim 6660 | F | 8.75 | 45.5 | Ros | 36x5 | 40x5† | Bim | | 8160 | 177 | | | | | | | |
| American | 4275 | Wis | 4¼x6 | 28.9 | L | GO | F | Strm | G | Pier | Apo | | Det | Cott R | A | 4 | Acm | SP | Sav 40-O | W | Wis 900 | ½ | 10 | | Lav | 36x5 | 36x5† | Smi | | 7000 | 158 | | | | | | | |
| Autocar B | 4350 | Own | 4¼x5½ | 28.9 | L | Own | S | Strm | G | Phar | | | Own | Own | A | 4 | Spic | Del | Own | R | Own | F | 8.7 | 52.3 | Ros | 34x6 | 36x12 | Hoo | | 7400 | 156 | | | | | | | |
| Autocar Y | 4200 | Own | 4¼x5½ | 28.9 | L | Own | S | Strm | G | Phar | | | Own | Own | A | 4 | Spic | Del | Own | R | Own | F | 8.7 | 52.3 | Ros | 34x6 | 36x12 | Hoo | | 7200 | 120 | | | | | | | |
| Bessemer K2 | 3695 | Cont E-7 | 4½x5½ | 32.4 | L | Spli | FS | Strm | G | Pier | Eis | | B.B. | B-Li 60 | A | 4 | Spic | Per | Shul 610 | I | Torb E | D | 10 | 49.5 | Ros | 36x5 | 36x10 | Smi | Fir | 7250 | 175 | | | | | | | |
| Corbitt A22 | 3790 | Cont L-4 | 4½x5½ | 32.4 | L | McC | FS | Strm | V | Sim | Eis | | B-Li | B-Li 50 | U | 4 | Hart | Shel | Shel 4FA20 | W | Shel W-32 | ½ | 11.75 | 47 | Ros | 36x5 | 36x10 | Smi | | 7370 | 178 | | | | | | | |
| Denby 27 | 3695 | Cont L-4 | 4½x5½ | 32.4 | L | Lng | F | Zen | G | Sim | Eis | | Full | Full H | A | 4 | Spic | Det | | I | | D | 10 | 49.9 | Ros | 36x5 | 36x6† | Smi | Fir | 7020 | 170 | | | | | | | |
| Double Drive B | 4000 | Buda YTU | 4½x6 | 32.4 | L | Hoo | F | Zen | V | Pier | Spl | Opt | B.B. | Own DDT | A | 4 | Own | Tut | Own FDD | W | Own RDD | ½ | 9.75 | 48.75 | Ros | 36x6‡ | 36x6‡ | Stn | Opt | 7350 | 144 | | | | | | | |
| Fageol | 5000 | Wau DU | 4½x6¼ | 32.4 | L | | F | Zen | V | Wau | Spl | | B-Li | | | 7 | Spic | Math | | W | | F | 7.4 | 79 | Ros | 36x5 | 36x5 | | | 7300 | 172 | | | | | | | |
| Federal WL | .... | Cont L-4 | 4½x5½ | 32.4 | L | Own | F | Zen | V | Phar | Eis | Rm | B.B. | W-Gr | A | 4 | Spic | Math | Tim 1630B | W | Tim 6760 | F | 10.33 | 51.56 | Gem | 36x5 | 36x5† | Smi | Fir | 7000 | 156 | | | | | | | |
| Garford 77D | 4200 | Buda YTU | 4½x6 | 32.4 | L | Own | F | Strm | G | Sim | Spl | | | | A | 4 | Spic | Per | Tim 1630B | W | Tim 6666 | F | 10.5 | 59.5 | Ros | 36x5 | 36x5† | Smi | | 7700 | 162 | | | | | | | |
| Gotfredson | 3975 | Buda YTU | 4½x6 | 32.4 | L | McC | F | Zen | V | Phar | Bos | | B-Li | B-Li 55 | A | 4 | Spic | Am | Tim 1630B | W | Tim 6666 | F | 10.33 | 56.5 | Gem | 34x5 | 36x12 | Day | | | 160 | | | | | | | | |
| Gramm-Pioneer 40 | 3850 | Hin HA200 | 4½x5½ | 32.4 | L | Own | F | Strm | G | Hin | Eis | NE | Own | Own | A | 4 | Own | Per | Shel | W | Shel W31 | ½ | 10.25 | 50.6 | Ros | 36x5 | 36x5† | Smi | | 7980 | ... | | | | | | | |
| Hurlburt C | 4150 | Buda YTU | 4½x6 | 32.4 | L | Own | FS | Zen | G | Sim | Eis | | B-Li | Full H | A | 4 | Spic | Per | Tim 1730 | W | Tim 6760 | F | 8.8 | 49.9 | Ros | 36x5 | 36x6† | Wau | | 7300 | Op | | | | | | | |
| Kissel Heavy Duty | 3675 | Own 14000 | 4¼x5½ | 28.9 | L | McC | S | Strm | V | Pier | Eis | | W-Gr | | A | 4 | Spic | Shel | | W | | ½ | 11.7 | 58.6 | Ros | 36x5 | 36x12 | Smi | | 7200 | 168 | | | | | | | |
| Maccar M3 | .... | Cont L-4 | 4½x5½ | 32.4 | L | Own | F | Strm | V | Pier | Eis | Bos | B-Li | B-Li 55 | U | 4 | Spic | Mer | Tim 1630B | W | Tim 6666 | F | 8.75 | 46.81 | Ros | 36x5 | 36x6† | Day | | 6975 | 174 | | | | | | | |
| Master Y | 4490 | Buda YTU | 4½x6 | 32.4 | L | Chic | F | Mas | V | Pier | Eis | | B-Li | | A | 4 | Spic | Det | | R | | F | Opt | Opt | Ros | 36x5 | 40x12 | Walk | | 8000 | 179 | | | | | | | |
| Master YL | 4590 | Buda YTU | 4½x6 | 32.4 | L | Chic | F | Mas | V | Pier | Eis | | B-Li | | A | 4 | Spic | Det | | R | | F | Opt | Opt | Ros | 36x5 | 40x12 | Walk | | 8000 | 194 | | | | | | | |
| Republic 20 | 3095 | Cont L-4 | 4½x5½ | 32.4 | L | Own | FS | Strm | G | Phar | Bos | | Full | | U | 4 | Spic | Math | | I | | D | 10.25 | 49.25 | Jac | 36x5 | 36x10 | Smi | Fir | 6520 | 165 | | | | | | | |
| Rowe HW | 4500 | Wis UAU | 4¼x6 | 28.9 | L | Fed | F | Zen | G | Sim | Bos | | B-Li | B-Li 55 | U | 4 | Spic | Shel | Shel 4FA20 | W | Shel W-31 | ½ | 8.7 | 35 | Ros | 36x5 | 36x6† | Hoo | | 6370 | 156 | | | | | | | |
| Schacht | 4400 | Wis VAU | 4¼x6 | 32.4 | L | Own | F | Zen | G | Dup | Bos | | B.B. | Own | A | 4 | Spic | Nat | Own | W | Own | F | 10.66 | 66.5 | Own | 36x5 | 40x5† | StM | | 7800 | 168 | | | | | | | |
| Service 77 | .... | Buda YTU | 4½x6 | 32.4 | L | Lng | F | Strm | | | Eis | | B.B. | B-Li 60 | A | 4 | Spic | Shel | Tim 1630 | W | Tim 6660 | F | 7.8 | 37.75 | Ros | 36x5 | 36x5† | Stn | | 7280 | 171 | | | | | | | |
| Union H | 3975 | Wis VAU | 4½x6 | 32.4 | L | GO | F | Sheb | G | Dup | Eis | LN | Full | Full H | U | 4 | UP | Math | Shul 650 | I | Torb E-1 | D | 10.25 | 49.2 | Ros | 36x6 | 36x10 | Smi | | 7700 | 174 | | | | | | | |
| Union HW | 3975 | Wis VAU | 4½x6 | 32.4 | L | GO | F | Sheb | G | Dup | Eis | LN | Full | Full HU1 | A | 4 | UP | Math | Shul 650 | R | Walk 5A | | 10.5 | 63 | Ros | 36x6 | 40x12 | Smi | | 7750 | 174 | | | | | | | |
| U. S., S | 4025 | Own | 4½x5½ | 32.4 | L | Lng | F | Strm | V | Dup | Eis | Opt | B-Li | B-Li 50 | A | 4 | Opt | Shel | Shel 4FA20 | W | Shel W-31 | ½ | 10.25 | 49.6 | Lav | 36x5 | 36x5† | Sch | | 7600 | 168 | | | | | | | |
| **5 Ton** | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Acason M | .... | Wau EU | 5 x6¼ | 40 | L | | FS | Sheb | V | Wau | Eis | | Det | | A | 4 | Bld | Det | Tim | W | Tim | F | 10.25 | 53.3 | Ros | 36x6 | 40x6† | Smi | Opt | 8970 | 187 | | | | | | | |
| Acme 125 | .... | Cont B-5 | 4¾x6 | 36.1 | L | GO | FS | Rayf | V | Dup | Eis | Del | B.B. | Cott T | A | 4 | Bld | Det | Tim 1730B | W | Tim 6760 | F | 11.66 | 60.63 | Ros | 36x6 | 40x6† | Smi | | 8976 | 180 | | | | | | | |
| American | 4500 | Wis | 4½x6 | 32.4 | L | GO | F | Strm | G | Pier | Apo | | Det | Cott R | A | 4 | Acm | SP | Sav 50-O | W | ThomDWM | F | 10 | | Lav | 36x5 | 36x12 | Ind | | 8000 | 176 | | | | | | | |
| American LaFrance 5R | .... | Own | 4¾x6 | 36.1 | L | Bus | FS | Strm | .. | Own | .... | Wes | Own | Own | A | 4 | Own | Mer | Own | W | Own | .. | 10. | 54.4 | Own | 36x6‡ | 40x12‡ | Day | | .... | 165* | | | | | | | |
| Atterbury 8E | 4975 | Cont B-2 | 4¾x6 | 36.1 | L | Own | F | Zen | V | Con | Eis | | B-Li | B-Li 60 | A | 4 | Spic | SP | Tim 1730B | W | Tim 6760 | F | 11.6 | 62.38 | Gem | 36x6 | 40x7† | Stn | | 9496 | 167 | | | | | | | |
| Atterbury 8E-LWB | 5125 | Cont B-2 | 4¾x6 | 36.1 | L | Own | F | Zen | V | Con | Eis | | B-Li | B-Li 60 | A | 4 | Spic | SP | Tim 1730B | W | Tim 6760 | F | 11.6 | 62.38 | Gem | 36x6 | 40x7† | Stn | | 9816 | 192 | | | | | | | |
| Autocar B | 4350 | Own | 4¼x5½ | 28.9 | L | Own | S | Strm | G | Phar | | | Own | Own | A | 4 | Spic | Del | Own | R | Own | F | 8.7 | 52.3 | Ros | 34x6 | 36x12 | Hoo | | 7400 | 156 | | | | | | | |
| Autocar Y | 4200 | Own | 4¼x5½ | 28.9 | L | Own | S | Strm | G | Phar | | | Own | Own | A | 4 | Spic | Del | Own | R | Own | F | 8.7 | 52.3 | Ros | 34x6 | 36x12 | Hoo | | 7200 | 120 | | | | | | | |
| Available H | 5375 | Her T-3 | 5 x6 | 40 | L | Chic | FS | Strm | V | Pier | Bos | | B-Li | B-Li 60 | A | 4 | M-E | Tut | Tim | W | Tim 6760 | F | 11.3 | 60.65 | Ros | 36x6 | 40x12 | Smi | | 9500 | 190 | | | | | | | |
| Brockway T | .... | Cont B-5 | 4¾x6 | 36.1 | L | Bus | F | Strm | V | Phar | Eis | | B-Li | B-Li 60 | A | 4 | Spic | Mer | Tim 1730B | W | Tim 6760 | F | 10.25 | 54.8 | Gem | 36x6 | 40x14† | Smi | | 8800 | 174 | | | | | | | |
| Chicago D5 | .... | Her MU-3 | 4½x5½ | 32.4 | L | Brm | F | Strm | G | Sim | Bos | | B-Li | B-Li 51-4 | A | 4 | Pet | Math | Tim 1730 | R | Huck 50 | F | 10.33 | 63.1 | Gem | 36x6 | 40x6† | Opt | | 8500 | 157 | | | | | | | |
| Clydesdale 4 | .... | Cont B-5 | 4¾x6 | 36.1 | L | Own | F | Zen | V | Own | Bos | | B-Li | B-Li 60 | A | 4 | Spic | Stan | Tim 1630B | W | Tim 6666 | F | 10.3 | 55.3 | Ros | 36x6 | 40x6† | | | | 177 | | | | | | | |
| Corbitt AA-22 | 4250 | Cont B-5 | 4¾x6 | 36.1 | L | McC | F | Strm | V | Sim | Eis | | B-Li | B-Li 60 | A | 4 | Hart | Shel | Shel 4FA20 | W | Shel W-51 | ½ | 10.25 | 49.6 | Ros | 36x6 | 40x6† | Smi | | 9410 | 178 | | | | | | | |
| Day-Elder EN | .... | Buda YTU | 4½x6 | 32.4 | L | Bus | F | Zen | G | Mon | Eis | | B-Li | B-Li 60 | A | 4 | Hart | Shel | Shel 4FA20 | W | Tim | F | 10.25 | 54.84 | Gem | 36x5 | 40x6† | Smi | Fir | 8400 | 170 | | | | | | | |
| Denby 210 | 4295 | Cont B-5 | 4¾x6 | 36.1 | L | Lng | F | Zen | G | Sim | Eis | | Full | Full H | A | 4 | Spic | Det | | I | Clark | D | 12.5 | 62.7 | Ros | 36x6 | 40x6† | Cla | Fir | 8590 | 170 | | | | | | | |
| Diamond T-EL | .... | Hin | 4½x5½ | 32.4 | L | GO | F | Strm | V | Own | Bos | | Covt | | A | 4 | Spic | Math | | W | | F | 11.66 | 59.11 | Gem | 36x6 | 40x6† | | | 8625 | 180 | | | | | | | |
| Diamond T S | .... | .... | 4¾x6 | 36.1 | L | GO | F | Strm | V | Own | Bos | | B-Li | | A | 4 | Spic | Math | | W | | F | 11.66 | 56.43 | Gem | 36x6 | 40x6† | | | 8750 | 180 | | | | | | | |
| Dixon | 4490 | Cont L-4 | 4½x5½ | 32.4 | L | GO | FS | Zen | G | Pier | Bos | | Full | Full GU-8 | U | 4 | Hart | IC | Vul 4F | W | Tim 6560 | F | Opt | Opt | Ros | 36x5 | 36x12 | Smi | | 7800 | 160 | | | | | | | |
| D-Olt B-5 | 4850 | Mid 400 | 4½x6 | 32.4 | H | GO | F | Zen | V | Sim | RBo | | B-Li | | A | 4 | Spic | SP | | W | | | 11.23 | 69 | Ros | 36x6 | 40x12 | | | 8600 | 168 | | | | | | | |
| Fageol | 5700 | WAU DU | 4½x6¼ | 32.4 | L | | F | Zen | V | Wau | Spl | | B-Li | | | 7 | Spic | Math | | W | | F | 8.4 | 89 | Ros | 36x6 | 40x6† | Stn | | 8300 | 172 | | | | | | | |
| Federal X-2 | .... | Cont B-5 | 4¾x6 | 36.1 | L | Own | F | Zen | V | Phar | Eis | Rm | B.B. | W-Gr | A | 4 | Spic | | | W | | F | 10.25 | 60 | Gem | 36x6 | 40x6† | | | 8700 | 163 | | | | | | | |
| Garford 68 D | 5000 | Buda BTU | 5 x6½ | 40 | L | Own | F | Strm | G | Sim | Spl | | | Own | A | 4 | Spic | Per | Tim 1730B | W | Tim 6760 | F | 8.8 | .... | Ros | 36x6 | 40x6† | Smi | | 9350 | 162 | | | | | | | |
| Gary M | 4650 | Buda BTU | 5 x6½ | 40 | L | Chic | F | Zen | V | McC | Eis | | | B-Li | A | 4 | Spic | Math | | W | | F | 11.66 | 56.4 | Ros | 36x6 | 40x12 | Day | | 9250 | 182 | | | | | | | |
| G.M.C K-101A | .... | Own | 4½x6 | 32.4 | L | Own | F | Mar | G | Own | Sim | Opt | Own | Own | A | 7 | Own | Det | Tim 1630 | W | Tim 6760 | F | 10 | 86 | Own | 36x5 | 40x6† | Own | | 8645 | 163 | | | | | | | |
| G.M.C. 101B | .... | Own | 4½x6 | 32.4 | L | Own | F | Mar | G | Own | Sim | Opt | Own | Own | A | 7 | Own | Det | Tim 1630 | W | Tim 6760 | F | 10 | 86 | Own | 36x5 | 40x6† | Own | | 8770 | 187 | | | | | | | |
| G.M.C. K-101 T | .... | Own | 4½x6 | 32.4 | L | Own | F | Mar | G | Own | Sim | Opt | Own | Own | A | 7 | Own | Det | Tim 1630 | W | Tim 6760 | F | 11.66 | 100.4 | Own | 36x5 | 40x14 | Own | | 8585 | 138 | | | | | | | |
| Gotfredson | | Buda BTU | 5 x6½ | 40 | L | McC | F | Zen | V | Phar | Bos | | B-Li | B-Li 60 | A | 4 | Spic | Am | Tim 1730B | W | Tim 6760 | F | 10.33 | 56.5 | Gem | 36x6 | 40x14 | Day | | | 166 | | | | | | | | |
| Gramm-Pioneer 50-60 | 4450 | Cont | 4¾x6 | 36.1 | L | Own | .. | Strm | G | Con | Eis | NE | Own | Own | A | 4 | Own | Per | Shel | W | Shel W-51 | ½ | 10.5 | 62 | Ros | 36x6 | 40x6† | Smi | | 9700 | ... | | | | | | | |
| Hendrickson K | 4725 | Wau EU | 5 x6¼ | 40 | L | Chic | F | Strm | G | Wau | Spl | | Full | Own | | 4 | Ther | Tut | | W | | F | 12 | 57 | Ros | 36x6 | 40x6† | Stn | | | Op | | | | | | | |
| Hewitt-Ludlow | .... | Buda | 4½x6 | 33.5 | L | Mod | F | Strm | V | | Bos | | B-Li | | | | Spic | | | | | D | | | Ros | 36x6 | 40x6† | | | | 170 | | | | | | | |
| Indiana 51 | .... | Wau EU | 5 x6¼ | 40 | L | McC | F | Strm | G | Wau | Eis | | B.B. | B-Li 60 | A | 4 | Spic | Shel | Shel 4FA20 | W | Shel W-51 | ½ | 10.25 | 54.84 | Woh | 36x5 | 40x12 | Smi | | 9000 | 170 | | | | | | | |
| International 101 | .... | Own | 4¼x5 | 28.9 | H | Own | FS | Ens | G | Own | Spl | Own | Own | | A | 4 | Own | Shel | | I | | D | 11 | 58.4 | Own | | | Own | | 6900 | 160 | | | | | | | |
| Kalamazoo OK | 4550 | Wis VAU | 4½x6 | 32.4 | L | GO | F | Strm | V | Pier | Bos | Dy | Full | Full | A | 4 | Bld | Shel | Shel 4FA20 | W | Shel | ½ | 13 | 78 | Ros | 36x6 | 40x6* | Smi | | 8470 | 160 | | | | | | | |
| Kelly-Springfield K50 | 4400 | Own | 4½x6½ | 32.4 | T | Lng | F | Zen | G | Pier | Eis | Del | B.B. | | A | 4 | | Per | | C | | D | 12.24 | 42.57 | Gem | 36x6 | 40x6† | Smi | | 8875 | Op | | | | | | | |
| Kleiber D | .... | Buda BTU | 5 x6½ | 40 | L | R-T | .. | Strm | G | Sim | Bos | | | | A | 4 | Spic | | | W | | F | 11.66 | 56.48 | Ros | 36x6 | 40x6 | Smi | | 9200 | 180 | | | | | | | |
| Larrabee W | 4800 | Cont B-5 | 4¾x6 | 36.1 | L | Bus | F | Zen | G | Own | Bos | | B-Li | | A | 4 | Spic | Mer | | W | | ½ | 10.25 | 55 | Ros | 36x6 | 40x12 | Smi | | 9900 | 186 | | | | | | | |
| Maccar G | .... | Cont B-2 | 4¾x6 | 36.1 | L | Own | F | Zen | V | Con | Eis | Bos | B-Li | B-Li 60 | A | 4 | Spic | Mer | Tim 1730B | W | Tim 6760 | F | 10.2 | 49.61 | Ros | 36x6 | 40x6† | Day | | 9000 | 186 | | | | | | | |
| MacDonald O | 5000 | Buda WTU | 3¾x5½ | 22.5 | L | Own | F | Zen | V | Sim | Spi | | B-Li | B-Li | U | 4 | Own | Own | | I | Own | D | 13.7 | 73.29 | Own | 36x6 | Opt | Opt | | | Opt | | | | | | | | |
| Mack AC | 5500 | Own AC | 5 x6 | 40 | L | Own | S | Zen | G | Own | Spl | | Own | | J | 4 | Spic | Mer | | C | | D | 8.31 | 53.31 | Own | 36x6 | 40x6† | | | 8650 | Op | | | | | | | |
| Master 61 | .... | Buda YTU | 4½x6 | 32.4 | L | Chic | F | Zen | V | Pier | Eis | | B-Li | B-Li | A | 4 | Spic | Det | | W | Tim | F | Opt | Opt | Ros | 36x5 | 40x12 | Smi | | 8200 | 158 | | | | | | | |
| Menominee J | 4850 | Wis RAU | 4¾x6 | 36.1 | L | Own | FS | Strm | G | Mon | Eis | Opt | Det | | A | 4 | Spic | Tut | | W | | F | 11.6 | 61.43 | Ros | 36x6 | 40x12 | Smi | Fir | 8250 | 160 | | | | | | | |
| Moreland RX | 4600 | Cont B-5 | 4¾x6 | 36.1 | L | Own | F | Strm | V | Con | Spl | | Own | Own 22H670 | A | 5 | Pet | US | Tim 1630B | W | Tim 6666 | F | 8.75 | 52.67 | Ros | 36x6 | 40x6 | Smi | | 8180 | 192 | | | | | | | |
| Nelson & LeMoon G | .... | Cont B-2 | 4¾x6 | 36.1 | L | Chic | F | Strm | G | Con | Bos | Bos | B-Li | B-Li 60 | A | 4 | Own | GC | Tim 1730 | W | Tim 6766 | F | 11.66 | ..... | Ros | 36x6 | 40x6† | StM | | 8000 | Op | | | | | | | |
| Ogden G | .... | Cont B-2 | 4¾x6 | 36.1 | L | Chic | F | Strm | G | Con | Spl | | B-Li | | A | 4 | M-E | Tut | | I | | | 10.33 | .... | Ros | 36x6 | 40x12 | Wal | | 8600 | 175 | | | | | | | |
| Old Reliable D | 4500 | Wis RAU | 4¾x6 | 36.1 | L | Chic | F | Strm | V | Phar | Apo | | Own | B-Li 60 | A | 4 | Pet | Shel | Shel 4FA20 | W | Shel W-51 | ½ | 10.25 | 54.8 | Ros | 36x6 | 40x6† | Sch | | 8000 | 165 | | | | | | | |
| Oneida E | 4725 | Hin 1600 | 4½x5½ | 33.5 | H | Mod | F | Strm | V | Hin | Apo | | Full | | A | 4 | Pet | Math | | W | | F | 11.66 | 70 | Ros | 36x6 | 40x12 | Smi | | 9400 | 180 | | | | | | | |

| TRADE NAME AND MODEL | Chassis Price | ENGINE DETAILS: Make and Model Number (4 cylinder unless otherwise noted.) | Bore and Stroke | N.A.C.C. Horsepower | Valve Arrange't | Radiator (Make) | Lubrication | Carburetor | Fuel Feed | Governor (Make) | Ignition System | Engine Starter | Clutch (Make) | GEARSET: Make and Model Number | Location | Speeds | Universal (Make) | Springs (Make) | FRONT AXLE and Model Number | REAR AXLE: Final Drive | Make and Model Number | Type | Total Gear Reduction in High | Total Gear Reduction in Low | Steering Gear (Make) | TIRES, WHEELS, RIMS: *Pneumatic †Dual ‡Solid — Front | Rear | Wheels (Make) | Rim Equipment | Chassis Weight (Stripped) | Wheelbase |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 1 | | | | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | | 13 | 14 | 15 | 16 | 17 | 18 | | | 19 | | | 20 | 21 | | |
| **5 Ton—Con'd** | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Packard EF | 4500 | Own | 5 x5½ | 40 | L | ..... | F | Own | P | Own | Spl | Bj | Own | Own | A | 4 | Spic | ..... | Own | W | Own | F | 10.66 | 49 | Ros | 36x6 | 40x6† | ..... | ..... | 9050 | 156 |
| Parker M20 | 4850 | Wis RBU | 5 x6 | 40 | L | Own | F | Strm | V | Sim | Eis | Wes | B-Li | W-Gr T 53 | A | 4 | Bld | Tut | Shul 650 | W | Tim 6760 | F | 10.25 | 51.1 | Ros | 36x6 | 40x6† | Smi | ..... | 8400 | 160 |
| Pierce Arrow R10 | 4850 | Own | 4½x6¾ | 32.4 | T | Own | F | Strm | P | Own | Del | ..... | Own | Own | A | 4 | Spic | SP | Own | W | Own | F | 10 | 61.2 | .... | 36x5 | 40x6† | Day | Gdy | 9300 | 168 |
| Rowe FW | 4850 | Wis VAU | 4½x6 | 32.4 | L | Fed | F | Zen | G | Sim | Bos | ..... | B-Li | B-Li 60 | A | 4 | Spic | Shel | Shel 5A30 | W | Shel W-51 | ½ | 10.25 | 40.7 | Ros | 36x6 | 40x6† | Hoo | ..... | 8300 | 169 |
| Sandow | 4325 | ..... | 4½x5½ | 32.4 | L | Chic | FS | Strm | G | Mon | Bos | ..... | B-Li | ..... | A | 4 | Spic | ..... | ..... | W | ..... | ... | 11 | 46.6 | Ros | ..... | ..... | ..... | ..... | 7800 | 175 |
| Sanford W50 | .... | Cont E-5 | 4½x5½ | 32.4 | L | McC | F | Strm | G | Pier | Eis | ..... | B.B. | B-Li 60 | A | 4 | Spic | Shel | Shel 4FA10 | W | Shel 51 | ½ | 10.75 | 52.03 | Ros | 36x5 | 40x6† | Hoo | Fir | 8700 | 174 |
| Schacht | 4600 | Wis VAU | 4½x6 | 32.4 | L | Own | F | Zen | G | Dup | Bos | ..... | B.B. | Own | A | 4 | Spic | Nat | Own | W | Own | F | 14 | 66.5 | Own | 36x5 | 40x6† | StM | ..... | 8200 | 168 |
| Selden Unit 90 | 4950 | Cont B-5 | 4¾x6 | 36.1 | L | Lng | F | Strm | G | Phar | Eis | ..... | Det | ..... | A | 4 | Spic | SP | ..... | W | ..... | F | 10.25 | 55 | Gem | 36x6 | 40x12 | Stn | ..... | 9650 | 164 |
| Signal R | .... | Cont B-5 | 4¾x6 | 36.1 | L | Lng | FS | Strm | G | Sim | Eis | ..... | B-Li | ..... | A | 4 | Spic | Det | ..... | W | ..... | F | 11.6 | 56.43 | Ros | 36x6 | 40x12 | Smi | Gdy | 9500 | 180 |
| Standard 5K | 4495 | Cont B-5 | 4¾x6 | 36.1 | L | Lng | F | Strm | V | Sim | Eis | ..... | B-Li | B-Li 60 | A | 4 | Spic | Am | Tim 1730 | W | Tim 6760 | F | 11.66 | 62.3 | Gem | 36x6 | 40x14 | Day | ..... | 8700 | 164 |
| Sterling | 5400 | Own | 5 x6¼ | 40 | L | Own | F | Zen | V | Wau | Eis | ..... | H-S | Own | A | 3 | Spic | Math | Tim 1730B | W | Tim 6760 | F | 8.8 | 39.69 | Ros | 36x6 | 40x6† | Pru | ..... | 9325 | 168 |
| Sterling-Chain St. EHD | 6000 | Own | 5 x6¼ | 40 | L | Own | F | Zen | V | Wau | Eis | ..... | H-S | Own | A | 6 | M-E | Math | Tim 1730B | C | Own | D | 7.26 | 44 | Ros | 36x6 | 40x6† | Smi | ..... | 9825 | 174 |
| Sterling-Chain St. ELD | 5490 | Own | 4½x6¼ | 32.4 | L | Own | F | Zen | V | Wau | Eis | ..... | H-S | Own | A | 6 | M-E | Math | Tim 1630B | C | Own | D | 7.7 | 47 | Ros | 36x5 | 40x10 | Pru | ..... | 8000 | 174 |
| Super Truck 100 | 4500 | Wis | 4¾x6 | 36.1 | L | Chic | F | Zen | G | Sim | Spl | ..... | Full | Full H | A | 4 | Spic | Shel | ..... | W | Shel W-51 | ½ | 10.25 | 49.2 | Ros | 40x5 | 40x6† | Smi | ..... | 8500 | 164 |
| Tiffin TW | 4300 | Cont B-2 | 4¾x6 | 36.1 | L | Own | F | Sheb | G | Con | Bos | Wes | B.B. | Cotts S | A | 4 | Pet | Vul | Shel 5FA30 | W | Shel W-51 | ½ | 10.25 | 53.3 | Ros | 36x6 | 40x6† | Smi | ..... | 8550 | 168 |
| Titan 5 | 4100 | Buda YBU | 4½x6 | 32.4 | L | .... | F | Zen | G | Phar | Eis | ..... | B-Li | B-Li | A | 4 | Spic | Shel | Shel 5FA30 | I | Own | D | 11 | 59 | Lav | 36x5 | 40x12 | Smi | ..... | 8400 | 156 |
| Transport 75 | .... | Buda YTU | 4½x6 | 32.5 | L | Mod | F | Strm | G | Dup | Eis | Opt | B.B. | ..... | U | 4 | Hart | Det | ..... | I | ..... | F | 10 | 51.1 | Jac | 36x5 | 36x12 | Mot | ..... | 7600 | 170 |
| Traylor F | 4700 | Buda YTU | 4½x6 | 32.6 | L | GO | F | Zen | G | Sim | Bos | ..... | B-Li | B-Li 60 | A | 4 | Spic | Mer | Shel 4FA20 | W | Shel W-32 | ½ | 10.2 | .... | Ros | 36x6 | 40x6† | Smi | ..... | 9000 | 170 |
| Ultimate D | 5500 | Buda BTU | 5 x6½ | 40 | L | Own | F | Strm | G | Pier | Eis | Bos | B-Li | B-Li 60 | A | 4 | Spic | Shel | ..... | W | Shel W-51 | ½ | 8.75 | 46.8 | Ros | 36x6 | 40x14 | Smi | ..... | 8600 | 180 |
| U. S., S. Special | 4500 | Hin HA | 4½x5½ | 32.4 | L | Lng | F | Strm | V | Hin | Eis | Opt | B-Li | B-Li 55 | A | 4 | Opt | Shel | ..... | W | Shel | ½ | 11.75 | 62.9 | Lav | 36x6 | 40x6† | Smi | ..... | 7500 | 168 |
| Walter S | 5100 | Own DU | 4½x6¼ | 32.4 | L | Bus | F | Strm | G | ..... | Bos | Wes | B-Li | ..... | A | 4 | Own | Stan | ..... | R | ..... | F | 9 | 45 | Ros | 36x6 | 40x6† | Day | ..... | 8200 | 168 |
| Ward La France A | 4890 | ..... | 5 x6¼ | 40 | L | Own | F | Strm | G | ..... | Bos | ..... | B-Li | B-Li 60 | A | 4 | Spic | Row | Tim 1730B | W | Tim 6760 | F | 8.8 | 47.08 | Ros | 36x6 | 40x6† | Smi | ..... | 9300 | 164 |
| White 45 | 4500 | Own GN | 4¼x5¾ | 28.9 | L | .... | F | Zen | V | Own | .... | ..... | Own | Own GMC | U | 4 | Own | .... | Own | R | Own | F | 11.6 | 47.85 | Own | 36x6 | 40x6† | ..... | ..... | 7950 | 174 |
| Wilcox F | 4350 | Buda | 4¾x6½ | 36.1 | L | .... | S | Strm | V | Dup | Bos | ..... | Own | ..... | A | 4 | Spic | Shel | ..... | R | ..... | ½ | 10.25 | 56.58 | Own | 36x5 | 40x12 | Smi | ..... | 9000 | 162 |
| Wilson H | 4520 | Cont | 4¾x6 | 36.1 | L | Lng | FS | Hol | V | Pier | Eis | ..... | B.B. | Cott S | A | 4 | KB | Per | Tim 1730 | W | Tim 6760 | F | 10.25 | 42.35 | Ros | 36x6 | 40x6† | Sm | ..... | 7500 | 160 |
| Winther 109 | 4700 | Wis WAU | 4½x6 | 32.4 | L | Brm | F | Mas | V | Dup | Eis | Wes | B.B. | B-Li 60 | A | 4 | Bld | Math | Tim | I | Clark | D | 12 | 60.5 | Ros | 36x5 | 40x6† | Cla | ..... | 8300 | 162 |
| **5½, 6 and 7 Ton** | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Autocar B | 4350 | Own | 4¼x5½ | 28.9 | L | Own | S | Strm | G | Phar | .... | ..... | Own | Own | A | 4 | Spic | Del | Own | R | Own | F | 8.7 | 52.3 | Ros | 34x6 | 36x12 | Hoo | ..... | 7400 | 156 |
| Autocar Y | 4200 | Own | 4¼x5½ | 28.9 | L | Own | S | Strm | G | Phar | .... | ..... | Own | Owh | A | 4 | Spic | Del | Own | R | Own | F | 8.7 | 52.3 | Ros | 36x6 | 36x12 | Hoo | ..... | 7200 | 120 |
| Clydesdale 2 | .... | Cont B-5 | 4¾x6 | 36.1 | L | Own | F | Zen | V | Own | Bos | ..... | B-Li | B-Li 60 | A | 4 | Spic | Stan | Tim 1730B | W | Tim 6760 | F | 11.6 | 62.5 | Ros | 36x7 | 40x7† | ..... | ..... | ..... | 176 |
| Garford 150 A-7½ | 5750 | Buda BTU | 5 x6½ | 40 | L | Own | F | Strm | G | Sim | Spl | ..... | ..... | Own | J | 4 | Spic | Per | Tim 1730B | C | Own | D | 11.44 | ..... | Ros | 36x6 | 40x7† | ..... | ..... | 10200 | 162 |
| Gramm-Bernstein 50-60 | 4450 | Cont | 4¾x6 | 36.1 | L | Own | ... | Strm | G | Con | Eis | NE | Own | Own | A | 4 | Spic | Per | Shel | ... | Shel W51 | ½ | 10.5 | 62. | Ros | 36x6 | 40x6† | Smi | ..... | 9700 | ... |
| Hurlburt E-E | 4850 | Buda ATU | 4¾x6½ | 36.1 | L | .... | .... | .... | .... | Sim | Eis | .... | .... | .... | A | 4 | ..... | ..... | ..... | W | ..... | F | 10.25 | .... | .... | 36x6 | 40x6 | ..... | ..... | 9965 | Op |
| Kelly-Springfield K-60 | 4600 | Own | 4½x6½ | 32.4 | T | Lng | F | Zen | G | Pier | Eis | Del | B.B. | ..... | A | 4 | Pet | Per | ..... | C | ..... | D | 12.41 | 50.26 | Gem | 36x6 | 40x7† | Smi | ..... | 9000 | Op |
| Kelly-Springfield K-61 | 4800 | Own | 4½x6½ | 32.4 | T | Lng | F | Zen | G | Pier | Eis | Del | B.B. | ..... | A | 4 | Pet | Per | ..... | I | ..... | D | 11.6 | 61.8 | Gem | 36x6 | 36x7 | Cla | ..... | 9025 | Op |
| MacDonald A 7 | 5750 | Buda YTU | 4½x6 | 32.4 | L | Own | F | Strm | V | Sim | Spl | ..... | B-Li | ..... | U | 4 | Own | Own | ..... | I | ..... | D | 17.5 | 77 | Own | 40x7 | Opt | Opt | ..... | 6000 | ... |
| MacDonald AB-7½ | 8000 | Buda YTU | 4½x6 | 32.4 | L | Own | F | Zen | V | Sim | Spl | ..... | B-Li | B-Li | U | 4 | Own | Own | ..... | I | Own | D | 17.5 | 77. | Own | 40x7 | Opt | Opt | ..... | ..... | 190 |
| Mack AC6½ | 5750 | Own AC | 5 x6 | 40 | L | Own | S | Zen | G | Own | Spl | ..... | Own | ..... | J | 4 | Spic | Mer | ..... | C | ..... | D | 8.95 | 57.41 | Own | 36x6 | 40x12 | ..... | ..... | 8672 | Op |
| Mack AC7½ | 6000 | Own AC | 5 x6 | 40 | L | Own | S | Zen | G | Own | Spl | ..... | Own | ..... | J | 4 | Spic | Mer | ..... | C | ..... | D | 9.69 | 62.20 | Own | 36x7 | 40x7† | ..... | ..... | 8950 | Op |
| Master 64 | .... | Buda ATU | 4¾x6½ | 36.1 | L | Chic | F | Zen | V | Pier | Eis | ..... | B-Li | B-Li | A | 4 | Spic | Det | ..... | W | Tim | F | Opt | Opt | Ros | 36x6 | 40x14 | Smi | ..... | 9800 | 170 |
| Old Reliable. . . L | 6000 | Wau EU | 5 x6¼ | 40 | L | Chic | S | Strm | G | Wau | Bos | ..... | Own | Own | J | 4 | Pet | Shel | Cont 2005 | C | Own | D | 10.07 | 50.65 | Ros | 36x6 | 40x7† | Sch | ..... | 10250 | Op |
| Rainier R-27 | 5100 | Cont B-5 | 4¾x6 | 36.1 | L | EM | F | Zen | V | Pier | Eis | ..... | B-Li | B-Li 60 | A | 4 | Spic | SP | Tim 1632B | W | Tim 6760 | F | 13.66 | 73.08 | Ros | 36x6 | 40x6† | Smi | ..... | 9000 | 170 |
| Service 102 | .... | Buda YTU | 4½x6 | 32.4 | L | Lng | F | Strm | V | ..... | Eis | ..... | B.B. | B-Li 60 | A | 4 | Spic | Shel | Tim 1730 | W | Tim 6760 | F | 10.25 | 54.84 | Ros | 36x6 | 40x6† | Stn | ..... | 8760 | 171 |
| Sterling 7½-Chain | 6500 | Wau | 5 x6¼ | 40 | L | Own | F | Zen | V | Wau | Eis | ..... | H-S | ..... | A | 6 | M-E | Math | ..... | C | Own | D | 7.26 | 44 | Ros | 36x6 | 40x7† | Smi | ..... | 10575 | 174 |
| Tiffin 6 U-W | 4500 | Cont B-2 | 4¾x6 | 36.1 | L | Own | F | Sheb | G | Con | Bos | Wes | B.B. | Cott S | A | 4 | Pet | Vul | Shel 5FA30 | W | Shel W-51 | ½ | 10.25 | 53.3 | Ros | 36x6 | 40x12 | Smi | ..... | 9200 | 168 |
| U. S. T | 4500 | Buda ATU | 4¾x6½ | 36.1 | L | Lng | F | Strm | V | Sim | Eis | Opt | B-Li | B-Li 60 | A | 4 | Opt | Shel | Shel 4FA20 | W | Shel W-51 | ½ | 10.25 | 54.8 | Lav | 36x6 | 40x6† | Smi | ..... | 9700 | 172 |
| Walter R | 5400 | Own DU | 4½x6¼ | 32.4 | L | Bus | F | Strm | G | ..... | Eis | Wes | B-Li | ..... | A | 4 | Own | ..... | ..... | ... | ..... | F | 11 | 55 | Ros | 36x6 | 40x7† | Day | ..... | 8500 | 168 |
| Winther 140 | .... | Wis-RBU | 5 x6 | 40 | L | Brm | F | Mas | V | Dup | Eis | Wes | B.B. | B-Li 60 | A | 4 | Bld | Math | Tim | I | Clark | D | 12 | 60.5 | Ros | 36x6 | 40x7† | Cla | ..... | 9600 | 162 |
| **Gasoline Tractor-Trucks** | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Federal Light Duty | .... | Cont K-4 | 4⅛x5¼ | 27.2 | L | Own | F | Zen | V | Phar | Eis | Rm | B.B. | Det | A | 4 | Spic | ..... | Own | W | Tim 6560 | F | 8.5 | 50.15 | Gem | 36x4 | 36x4† | ..... | ..... | 5000 | 121 |
| Federal Heavy Duty | .... | Cont L-4 | 4½x5½ | 32.4 | L | Own | F | Zen | V | Phar | Eis | Rm | B.B. | W-Gr | A | 4 | Spic | .... | Tim 1630B | W | Tim 6666 | F | 10.33 | 59.8 | Gem | 36x5 | 36x5† | ..... | ..... | 6700 | 125 |
| Harvey WFT | 3050 | Buda ETU | 4¼x5½ | 29 | L | Own | F | Strm | G | McC | Spl | ..... | Full | B-Li 50 | A | 4 | Spic | Bea | Shel D-370 | W | Shel W-21 | ½ | 9.5 | 45.9 | Ros | 36x5 | 36x10 | Smi | ..... | 7030 | 125 |
| Harvey WHT | 4050 | Buda YTU | 4½x6 | 32.4 | L | Own | F | Strm | G | McC | Spl | ..... | Full | B-Li 60 | A | 4 | Spic | Bea | Shel 4FA20 | W | Shel W-32 | ½ | 10.2 | 54.7 | Ros | 36x6 | 36x12 | Smi | ..... | 8900 | 125 |
| International 62 3 Ton | .... | Own | 4¼x5 | 28.9 | H | Own | FS | Ens | G | Own | Spl | Own | Own | ..... | A | 4 | Own | ..... | ..... | I | ..... | D | 9 | 47.8 | Own | ..... | ..... | Own | ..... | ..... | 122 |
| International 102 5 Ton | .... | Own | 4¼x5 | 28.9 | H | Own | FS | Ens | G | Own | Spl | Own | Own | ..... | A | 4 | Own | ..... | ..... | I | ..... | D | 11 | 58.4 | Own | ..... | ..... | Own | ..... | ..... | 122 |
| Lombard 60 H.P | .... | Spec 4 | 5½x6½ | 42 | L | Spec | F | Strm | P | ..... | Sim | Wes | Own | Own | A | 4 | Own | ..... | Own | W | Own | ... | ..... | ..... | Spe | ..... | ..... | ..... | ..... | 18000 | ... |
| Lombard 140 H.P | .... | Spec 6 | 5¾x7 | 72.7 | L | Spec | F | Strm | P | ..... | Sim | Wes | Own | Own | A | 3 | Own | ..... | Own | W | Own | ... | ..... | ..... | Spe | ..... | ..... | ..... | ..... | 8000 | ... |
| Mack AB 5-Ton | 3400 | Own AB | 4¼x5 | 28.9 | L | Own | S | Zen | G | Own | Spl | ..... | Own | ..... | J | 4 | Spic | Mer | ..... | C | ..... | D | 10.5 | 42.27 | Own | 36x4 | 36x4† | ..... | ..... | 4940 | 120 |
| Mack AC 7-Ton | 4950 | Own AC | 5 x6 | 40 | L | Own | S | Zen | G | Own | Spl | ..... | Own | ..... | J | 4 | Spic | Mer | ..... | C | ..... | D | 9.60 | 62.20 | Own | 36x5 | 40x5† | ..... | ..... | 7670 | 120 |
| Mack AC 10-Ton | 5500 | Own AC | 5 x6 | 40 | L | Own | S | Zen | G | Own | Spl | ..... | Own | ..... | J | 4 | Spic | Mer | ..... | C | ..... | D | 10.5 | 67.38 | Own | 36x6 | 40x6† | ..... | ..... | 8250 | 120 |
| Mack AC 13-Ton | 5750 | Own AC | 5 x6 | 40 | L | Own | S | Zen | G | Own | Spl | ..... | Own | ..... | J | 4 | Spic | Mer | ..... | C | ..... | D | 11.58 | 74.29 | Own | 36x6 | 40x12 | ..... | ..... | 8272 | 120 |
| Mack AC 15-Ton | 6000 | Own AC | 5 x6 | 40 | L | Own | S | Zen | G | Own | Spl | ..... | Own | ..... | J | 4 | Spic | Mer | ..... | C | ..... | D | 12.92 | 82.92 | Own | 36x7 | 40x7† | ..... | ..... | 8650 | 120 |
| Master DDT | 3390 | Buda HU | 4¼x5½ | 28.9 | L | Chic | FS | Mas | V | McC | Eis | ..... | Full | ..... | U | 4 | Spic | Det | ..... | R | ..... | F | Opt | Opt | Ros | 34x4 | 36x7 | Wal | ..... | 4500 | Op |
| Walter FT | 6500 | Own DU | 4½x6¼ | 32.4 | L | Bus | F | Strm | V | ..... | Eis | Wes | M-E | ..... | ... | 5 | Own | ..... | ..... | ... | ..... | F | 8.5 | 85 | Ros | 40x7 | 40x7† | Day | ..... | 8900 | 100 |
| Watson U | 4050 | Cont E-4 | 4½x5½ | 32.4 | L | Jam | FS | Strm | G | Pier | Sim | ..... | B-Li | ..... | U | 4 | Spic | Shel | ..... | W | ..... | F | 8.75 | 42.35 | Gem | 34x4 | 36x5† | C&M | ..... | 6500 | 180 |

# ELECTRIC COMMERCIAL CARS

| Name and Model Number | Carrying Capacity | Chassis Weight—Exclusive of Battery | Chassis Weight—with Minimum Battery Capacity | Chassis Weight With Maximum Battery Capacity | Chassis Price | Maximum Speed | Location of Battery | Mileage Per Charge | Motor | Controller | Speeds Forward | Drive | Rear Axle | Springs | Front Tires | Rear Tires | Steering Gear | Wheelbase | Per Cent of Weight on Rear Wheels |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| C-T D-1 | 1000 | 2200 | ..... | ..... | 1700 | 14 | A | 55 | G-E | Own | 4 | Own | Flot | Shel | 36x3 | 36x3½ | W | 100 | 69 |
| C-T B-1.5 | 1500 | 2300 | ..... | ..... | 2100 | 14 | A | 60 | G-E | Own | 4 | Own | Flot | Shel | 36x3 | 36x4 | W | 91⅝ | 65 |
| C-T D-1.5 | 1500 | 2300 | ..... | ..... | 2100 | 14 | A | 60 | G-E | Own | 4 | Own | Flot | Shel | 36x3 | 36x4 | W | 116 | 71 |
| C-T B-2 | 2000 | 2400 | ..... | ..... | 2350 | 14 | A | 50 | G-E | Own | 4 | Own | Flot | Shel | 36x3½ | 36x5 | W | 101 | 66 |
| C-T D-2 | 2000 | 2400 | ..... | ..... | 2350 | 14 | A | 50 | G-E | Own | 4 | Own | Flot | Shel | 36x3½ | 36x5 | W | 124 | 70 |
| C-T B-4 | 4000 | 4000 | ..... | ..... | 2800 | 12 | A | 50 | G-E | Own | 4 | Own | Flot | Shel | 36x4 | 36x4† | W | 116 | 68 |
| C-T C-6 | 6000 | 4300 | ..... | ..... | 3100 | 10 | A | 45 | G-E | Own | 4 | I | D | Shel | 36x4 | 36x4† | W | 122 | 70 |
| C-T C-7 | 7000 | 5000 | ..... | ..... | 3800 | 10 | A | 45 | G-E | Own | 4 | I | D | Shel | 36x5 | 36x5† | W | 126 | 65 |
| C-T A-7 | 7000 | 5800 | ..... | ..... | 4150 | 11 | A | 45 | G-E | Own | 4 | I | D | Shel | 36x6 | 36x4† | W | 122 | 60 |
| C-T A-10 | 10000 | 6500 | ..... | ..... | 4250 | 10 | A | 45 | G-E | Own | 4 | I | D | Shel | 36x7 | 36x5† | W | 132 | 59 |
| Kelland AT | 1000 | 1950 | 3050 | 3550 | ..... | 15 | S | 50 | G-E | G-E | 4 | R | Flot | Mer | 34x3 | 34x3 | Ross | 102 | 60 |
| Kelland BT | 1500 | 2050 | 3150 | 3950 | ..... | 15 | S | 50 | G-E | G-E | 4 | R | Flot | Mer | 34x3½ | 34x3½ | Ross | 102 | 60 |
| Kelland CT | 2000 | 2150 | 3450 | 4050 | ..... | 15 | S | 50 | G-E | G-E | 4 | R | Flot | Mer | 34x3½ | 34x4 | Ross | 102 | 60 |
| Kelland AH | 1000 | 2500 | 3600 | 4100 | ..... | 15 | A | 45 | G-E | G-E | 4 | C | D | Mer | 36x3 | 36x3 | Hin | 106 | 60 |
| Kelland BH | 1500 | 2600 | 3700 | 4500 | ..... | 15 | A | 45 | G-E | G-E | 4 | C | D | Mer | 36x3½ | 36x3½ | Hin | 106 | 60 |
| Kelland CH | 2000 | 2700 | 4000 | 4600 | ..... | 15 | A | 45 | G-E | G-E | 4 | C | D | Mer | 36x3½ | 36x4 | Hin | 106 | 60 |
| Lansden BG | 1250 | 1400 | ..... | ..... | 1600 | 15 | S | 50 | G-E | G-E | 4 | R | Flot | SP | 32x4½ | 32x4½ | Lav | 108 | 50 |
| Lansden MC | 2000 | 2900 | ..... | ..... | 1850 | 12 | A | 50 | G-E | G-E | 4 | C | D | SP | 36x3 | 36x3½ | KH | 108 | 60 |
| Lansden MD | 4000 | 4400 | ..... | ..... | 2250 | 11 | A | 50 | G-E | G-E | 4 | C | D | SP | 36x4 | 36x3† | KH | 120 | 60 |
| Lansden ME | 7000 | 5700 | ..... | ..... | 2950 | 10 | A | 45 | G-E | G-E | 4 | C | D | SP | 36x5 | 36x4† | KH | 133 | 60 |
| Lansden MF | 10000 | 7500 | ..... | ..... | 3350 | 9 | A | 40 | G-E | G-E | 4 | C | D | SP | 36x6 | 36x5† | KH | 146 | 60 |
| Lansden MG | 12000 | 8900 | ..... | ..... | ..... | 7 | A | 35 | G-E | G-E | 4 | C | D | SP | 36x7 | 36x6† | KH | 156 | 60 |
| Milburn Model 40 | 2000 | 1990 | ..... | ..... | 1985 | 15 | H&S | 40 | G-E | Own | 4 | ..... | W | Math | 32x4½ | 33x5 | Gem | 128 | 62 |
| Milburn Model 43 | 1000 | 1690 | ..... | ..... | 1585 | 18 | H&S | 50 | G-E | Own | 4 | ..... | W | Math | 32x4½ | 32x4½ | Gem | 115 | 56 |
| Milburn Model 27D | 500 | 1325 | ..... | ..... | 1085 | 20 | H&S | 50 | G-E | Own | 4 | ..... | W | Math | 33x4 | 33x4 | Gem | 105 | 48 |
| O. B. A | 2000 | ..... | ..... | ..... | 2175 | 14 | ..... | ..... | G-E | Own | ... | C | D | ..... | 36x3½ | 36x4 | Own | 103 | ..... |
| O. B. B | 4000 | ..... | ..... | ..... | 2650 | 13 | ..... | ..... | G-E | Own | ... | C | D | ..... | 36x4 | 36x3½† | Own | 107 | ..... |
| O. B. C | 7000 | ..... | ..... | ..... | 3750 | 11 | ..... | ..... | G-E | Own | ... | C | D | ..... | 36x5 | 36x4 † | Own | 135 | ..... |
| O. B. D | 10000 | ..... | ..... | ..... | 3950 | 10 | ..... | ..... | G-E | Own | ... | C | D | ..... | 36x6 | 36x5 † | Own | 143 | ..... |
| Steinmetz 10 | 1000 | 2000 | ..... | ..... | ..... | 16 | H&S | 52 | Diehl | Own | 4 | R | Russ | Shel | 32x4½ | 32x4½ | Lav | 106 | 60 |
| Steinmetz 15 | 1500 | 2300 | ..... | ..... | ..... | 16 | H&S | 55 | Diehl | Own | 4 | R | Russ | Shel | 33x5 | 33x5 | Lav | 114 | 60 |
| Walker 12 | 1000 | 1900 | ..... | ..... | ..... | 15 | ..... | 60 | G-E | West | 4 | ..... | Tim | Det | 32x3 | 32x3½ | Ross | 104 | 66 |
| Walker 15 | 1500 | 2600 | ..... | ..... | ..... | 15 | ..... | 60 | West | West | 5 | Own | Own | Math | 34x3 | 36x3½ | Ross | 94 | 66 |
| Walker 22 | 2000 | 2800 | ..... | ..... | ..... | 14 | ..... | 60 | West | West | 5 | Own | Own | Math | 34x3½ | 36x4 | Ross | 101 | 66 |
| Walker 42 | 4000 | 3800 | ..... | ..... | ..... | 13 | ..... | 60 | West | West | 5 | Own | Own | Math | 36x4 | 36x6 | Ross | 114 | 66 |
| Walker N | 10000 | 6400 | ..... | ..... | ..... | 10 | ..... | 50 | West | West | 5 | Own | Own | Math | 36x6 | 38x6† | Ross | 141 | 66 |
| Walker P | 7000 | 5600 | ..... | ..... | ..... | 11 | ..... | 50 | West | West | 5 | Own | Own | Math | 36x5 | 38x5† | Ross | 131 | 66 |
| Walter EN | 4000 | 4400 | ..... | ..... | 3100 | 15 | A | 50 | G-E | G-E | 5 | Own | D | ..... | 36x4 | 36x7 | Gem | 114 | 60 |
| Walter EL | 6000 | 5000 | ..... | ..... | 3700 | 13½ | A | 50 | G-E | G-E | 5 | Own | D | ..... | 36x5 | 36x4 | Gem | 132 | 60 |
| Walter ES | 10000 | 7200 | ..... | ..... | 4500 | 12 | A | 50 | G-E | G-E | 5 | Own | D | ..... | 36x6 | 40x6 | Ros | 150 | 70 |
| Walter ER | 14000 | 7500 | ..... | ..... | 4800 | 11 | A | 50 | G-E | G-E | 5 | Own | D | ..... | 36x7 | 40x7 | Ros | 150 | 70 |
| Ward WS 2 | ..... | 1650 | ..... | ..... | ..... | 14 | S | 75 | G-E | Own | 4 | W | Shel | Shel | 32x3 | 32x3½ | Own | 88 | 56 |
| Ward WA | ..... | 2860 | ..... | ..... | ..... | 13 | A | 52½ | G-E | G-E | 4 | W | Shel | Shel | 32x3½ | 34x4 | Own | 90 | 61 |
| Ward WA 2 | ..... | 2470 | ..... | ..... | ..... | 13 | S | 72½ | G-E | Own | 4 | W | Shel | Shel | 32x3½ | 34x4 | Own | 90 | 61 |
| Ward WB | ..... | 3850 | ..... | ..... | ..... | 12½ | A | 50 | G-E | G-E | 4 | W | Shel | Shel | 34x4 | 36x5 | Own | 102 | 64 |
| Ward WB 2 | ..... | 3350 | ..... | ..... | ..... | 12½ | S | 70 | G-E | Own | 4 | W | Shel | Shel | 34x4 | 36x5 | Own | 102 | 64 |
| Ward WD | ..... | 4875 | ..... | ..... | ..... | 11 | A | 50 | G-E | G-E | 4 | W | Shel | Shel | 36x5 | 36x7 | Own | 114 | 68 |
| Ward WD 2 | ..... | 4350 | ..... | ..... | ..... | 11 | S | 60 | G-E | G-E | 4 | W | Shel | Shel | 36x5 | 36x7 | Own | 114 | 68 |
| Ward WF | ..... | 7200 | ..... | ..... | ..... | 10 | A | 40 | G-E | G-E | 5 | W | Shel | Shel | 36x6 | 36x10 | Own | 132 | 70 |
| Ward WF 2 | ..... | 6450 | ..... | ..... | ..... | 10 | S | 40 | G-E | G-E | 5 | W | Shel | Shel | 36x6 | 36x10 | Own | 132 | 70 |
| Ward WH | ..... | 9400 | ..... | ..... | ..... | 9 | A | 38 | G-E | G-E | 5 | W | Shel | Shel | 36x7 | 40x12 | Own | 146 | 70 |
| Ward WH 2 | ..... | 8200 | ..... | ..... | ..... | 9 | S | 38 | G-E | G-E | 5 | W | Shel | Shel | 36x7 | 40x12 | Own | 146 | 71 |
| Ward WM | ..... | 2600 | ..... | ..... | ..... | 12½ | S | 57½ | G-E | Own | 4 | W | Shel | Shel | 32x3½ | 32x4 | Own | 88 | 70 |
| Ward WM 2 | ..... | 2900 | ..... | ..... | ..... | 12 | S | 70 | G-E | Own | 4 | W | Shel | Shel | 32x3½ | 32x5 | Own | 96 | 70 |

NOTE: Battery Equipment in all above makes is at the option of the purchaser. Battery Location Abbreviations: A—amidships; H—under hood; and S—under seat.

## Steel and Rubber Markets

### Steel Products Prices

### (For June 2, 1923)

Quotations are f.o.b. Pittsburgh. Freight rates from Pittsburgh in carload lots per 100 pounds to points named are as follows: New York, 34c; Philadelphia, 32½c; Boston, 36½c; Buffalo, 26½c; Cleveland, 21½; Chicago, 34c.

### Semi-Finished—Gross Tons

| | | | |
|---|---|---|---|
| Billets, rerolling | $45 00 | a | .... |
| Billets, forging | 55 00 | a | .... |
| Sheet bars | 45 00 | a | .... |
| Slabs | 45 00 | a | .... |
| Wire rods | 51 00 | a | .... |
| Skelp (cents per lb.) | 2 50 | a | .... |

### Sheets, Etc.—Cents per Pound

| | | | |
|---|---|---|---|
| Blue annealed | $3 00 | a | 3 25 |
| Black | 3 85 | a | 4 00 |
| Galvanizing | 5 00 | a | 5 25 |
| Auto body | 5 25 | a | 5 75 |
| Strips, hot rolled | 3 30 | a | 3 50 |
| Strips, cold rolled | 5 25 | a | 5 50 |
| Hoops | 3 30 | a | .... |
| Bands | 3 30 | a | .... |
| Tin plate (per base box) | 5 50 | a | 6 00 |

### Hot Rolled—Cents per Pound

| | | | |
|---|---|---|---|
| Bars | $2 40 | a | 2 50 |
| Plates | 2 50 | a | 2 60 |
| Shapes | 2 50 | a | 2 60 |
| Rails, standard (gross ton) | 43 00 | a | .... |
| Rails, light | 2 25 | a | .... |

### Rubber Off Sharply

| | | | |
|---|---|---|---|
| Plantations— | | | |
| 1st latex, cr., spot | .. | a | 29⅛ |
| June | .. | a | 29⅛ |
| July | .. | a | 29⅜ |
| July-Sept. | .. | a | 29⅝ |
| Oct.-Dec. | .. | a | 30¼ |
| Ribbed smk. sheets, spot | .. | a | 29⅛ |
| June | .. | a | 29⅛ |
| July | .. | a | 29⅜ |
| July-Sept. | .. | a | 29⅝ |
| Oct.-Dec. | .. | a | 30¼ |
| *Brown crepe, thin, clean | .. | a | 27¾ |
| *Specky | .. | a | 27⅛ |
| Rolled | .. | a | 26⅜ |
| Amber— | | | |
| *No. 1 | .. | a | 29⅛ |
| No. 2 | .. | a | 28⅛ |
| No. 3 | .. | a | 27½ |
| Para— | | | |
| Up-river, fine | .. | a | 29 |
| do coarse | .. | a | 26 |
| *Island, fine | .. | a | 25 |
| do coarse | .. | a | 15 |
| Caucho Ball— | | | |
| *Upper | .. | a | 27½ |
| *Lower | 25½ | a | .. |
| Cameta | .. | a | 15 |
| *Centrals— | | | |
| Corinto | 22 | a | .. |
| Esmeraldas | 22 | a | .. |
| *Mexican scrap | 21 | a | .. |
| *Guayule— | | | |
| Wet | .. | a | .. |
| Dry | .. | a | 23 |
| Balata— | | | |
| Block, Ciudad | 75 | a | .. |
| Block, Colombian | 60 | a | .. |
| Panama | 58 | a | .. |
| Sheet | 30 | a | .. |
| Massai— | | | |
| Prime | .. | a | 21½ |
| *Benguela— | | | |
| No. 2 | .. | a | .. |
| *Kassai— | | | |
| Br. black | .. | a | 30½ |
| Fr. red | .. | a | 25¼ |

*Nominal.

## Electric Steel Group Hold Meeting

The various phases of the research work being done by the members of the Electric Steel Founders' Research Group, to improve the quality of steel castings and increase efficiency in methods, were discussed in detail at a regular meeting of that organization May 14th to 17th at Wernersville, Pa. Formal reports giving the status of the present research investigations were read on such subjects as facing sand mixtures, core sand mixtures, electric furnace practice, heat treatment of steel castings, production control, porosity in castings, etc. At this meeting plans were made for conducting investigations on additional foundry problems.

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The United States Transit Corp., which will operate a new bus line service in St. Louis, recently placed on exhibition several of the new buses that are to be used. The company has made arrangements for the purchase of a site close to Grand-Dover Park which will be used as the southern terminus of the line.

# Manufacturers and Models Included in Specifications on Preceding Pages

Acason—2, 2½, 3½, 5—The Acason Corp., Detroit, Mich.
Ace—1½, 2½—American Motor Truck Co., Newark, Ohio.
★Acme—1, 1½, 2, 3, 3½ 4½, 6¼—Acme Motor Truck Co., Cadillac, Mich.
American—2½, 4, 5—American Motor Truck & Tractor Co., Portland, Conn.
★American La France—¾, 2, 3½, 5—American La France Fire Engine Co., Inc., Elmira, N. Y.
Armleder—1, 1½, 2½, 3½—O. Armleder Motor Truck Co., Cincinnati Ohio.
Atco—1½, 2½—American Truck & Trailer Corp., Kankakee, Ill.
Atlas—1¼, 2½—Industrial Motor Corp., Rochester, N. Y.
★Atterbury—1½, 2½, 3½, 5—Atterbury Motor Car Co., Buffalo, N. Y.
★Autocar—1, 1¼, 1½, 2, 2½, 3, 4, 5 to 7—Autocar Co., Ardmore, Pa.
Available—1½, 2, 2½, 3½, 5—Available Truck Co., Chicago, Ill.
Avery—1—Avery Company, Peoria, Ill.
Bell—1, 1½, 2½—Iowa Motor Truck Co., Ottumwa, Ia.
Belmont—1, 1½, 2, 2½, 3—Belmont Motors Corp., Harrisburg, Pa.
★Bessemer—1, 1½, 2½, 4—Bessemer Motor Truck Co., Grove City, Pa.
Bethlehem—1, 2, 3—Bethlehem Motors Corp., Allentown, Pa.
Betz—7, 2½—Betz Motor Truck Co., Hammond, Ind.
Brinton—1½, 2½—Brinton Motor Truck Co., Philadelphia, Pa.
Brockway—¾, 1½, 2½, 3½, 5—Brockway Motor Truck Co., Cortland, N. Y.
★Buffalo—2, 3—Buffalo Truck and Tractor Corp., Clarence, N. Y.
Buick—¾—Buick Motor Co., Flint, Mich.
C. T.—1, 1½, 2, 3½, 5—Commercial Truck Co., Philadelphia, Pa.
Casco—1—Casco Motors, Inc., Portland, Maine.
Case—2—J. I. Case Plow Works Co., Racine, Wis.
Chevrolet—½, ¾, 1—Chevrolet Motor Co. of Mich., Flint, Mich.
Chicago—1½, 2½, 3½, 5—Chicago Motor Truck, Inc., Chicago, Ill.
Climber—1½—Climber Motor Corp., Little Rock, Ark.
Clydesdale—1¼, 2½, 3½, 5, 7—Clydesdale Motor Truck Co., Clyde, Ohio.
★Commerce—¾, 1½, 2½—Commerce Motor Truck Co., Detroit, Mich
Concord—1½, 2, 2½, 3—Abbott-Downing Truck & Body Co., Concord, N. H.
Corbitt—¾, 1, 1½, 2, 2½, 3, 4, 5—Corbitt Motor Truck Co., Henderson, N. C.
★Day-Elder—1, 1½, 2, 2½, 3½, 5—Day-Elder Motors Corp., Newark, N. J.
★Defiance—1¼, 1½, 2, 3—Defiance Motor Truck Co., Defiance, Ohio.
★Denby—1¼, 2, 3, 4, 5—Denby Motor Truck Co., Detroit, Mich.
Dependable—1¼, 2, 2½, 3, 3½—Dependable Truck & Tractor Co., East St. Louis, Ill.
Diamond T—1¼, 1½, 2½, 3½, 5—Diamond T Motor Car Co., Chicago, Ill.
Diehl—1, 1½—Diehl Motor Truck Works, Philadelphia, Pa.
Dixon—1½, 2½, 3½—Dixon Motor Truck Co., Altoona, Pa.
Dodge—¾—Dodge Bros., Detroit, Mich.
D-Olt—1, 1½, 2½, 5—D-Olt Motor Truck Co., Inc., Long Island City, N. Y.
Dorris—1, 2, 3½—Dorris Motor Car Co., St. Louis, Mo.
Dort—½—Dort Motor Car Co., Flint, Mich.
Double Drive—4—Double Drive Truck Co., Benton Harbor, Mich.
Drake—2—Drake Motor & Tire Mfg. Corp., Knoxville, Tenn.
★Duplex—1, 1½, 2, 3½—Duplex Truck Co., Lansing, Mich.
Eagle—1¼, 2—Eagle Motor Truck Corp., St. Louis, Mo.
Eugol—1—Eugol Motor Truck Co., Chicago, Ill.
F. W. D.—3—Four-Wheel Drive Auto Co., Clintonville, Wis.
Facto—2½—Facto Motor Trucks, Springfield, Mass.
Fageol—2, 3, 4, 5—Fageol Motors Co., Oakland, Cal.
★Federal—¾, 1, 1½, 2, 3½, 5, T.T.—Federal Motor Truck Co., Detroit, Mich.
Ford—1—Ford Motor Co., Highland Park, Mich.
Front Drive—1½—Double Drive Truck Co., Benton Harbor, Mich.
Fulton—1, 2—Fulton Motors Corp., Farmingdale, N. Y.
★G. M. C.—1, 2, 3½, 5—General Motors Truck Co., Pontiac, Mich.
G. W. W.—1½—Wilson Truck Mfg. Co., Henderson, Ia.
★Garford—1, 1½, 2½, 4, 5, 7½—Garford Motor Truck Co., Lima, O.
★Gary—1, 2, 2½, 3½, 5—Gary Motor Corp., Gary, Ill.
Gotfredson—1, 1½, 2½, 4, 5—Gotfredson Truck Corp., Ltd., Walkerville, Ont.
★Graham—1, 1½—Graham Brothers, Evansville, Ind.
★Gramm-Bernstein—1, 1½, 2, 2½, 3, 3½, 4, 5—Gramm-Bernstein Motor Truck Co., Lima, Ohio.
Hal-Fur—2, 3½—Hal-Fur Motor Truck Co., Cleveland, Ohio.
Harvey—2, 2½, 3½, 6, 10—Harvey Motor Truck Co., Harvey, Ill.
Hawkeye—1, 1½, 2½, 3½—Hawkeye Truck Co., Sioux City, Iowa.
Hendrickson—2½, 3½, 5—Hendrickson Motor Truck Co., Chicago, Ill.
Hewitt-Ludlow—2, 2½, 3½, 5—Hewitt-Ludlow Co., Inc., San Francisco, Cal.
Hug—1½—The Hug Co., Highland, Ill.
Hurlburt—1½, 2½, 3½, 5, 7—Harrisburg Mfg. & Boiler Co., Harrisburg, Pa.
Independent—1, 1½, 2½—Independent Motor Truck Co., Inc., Davenport, Ia.
Indiana—1, 1½, 2, 2½, 3½, 5—Indiana Truck Corp., Marion, Ind.
★International—¾, 1, 1½, 2, 2½, 3, 5—International Harvester Co., Chicago, Ill.
Jackson—3½—Jackson Motors Corp., Jackson, Mich.
Kalamazoo—1½, 2½, 3½, 5—Kalamazoo Motor Corp., Kalamazoo, Mich.
Kearns—1, 1½, 2—Kearns-Dughie Motors Co., Danville, Pa.
Kelland—Kelland Motor Car Co., Newark, N. J.
Kelly-Springfield—1½, 2½, 3½, 5, 6—Kelly-Springfield Motor Truck Co., Springfield, O.
Kenworth—1½, 2½, 3½—Kenworth Motor Truck Corp., Seattle, Wash.
Keystone—2—Keystone Motor Truck Corp., Oaks, Pa.
★Kissel—1, 1½, 2½, 4—Kissel Motor Car Co., Hartford, Wis.
Kleiber—1, 1½, 2, 2½, 3½, 5—Kleiber & Co., Inc., San Francisco, Cal.
Lange—2, 2½—Lange Motor Truck Co., Pittsburgh, Pa.
Lansden—¾, 1, 2, 3½, 5, 6—Lansden Company, Danbury, Conn.
Larrabee-Deyo—1, 1½, 2½, 3½, 5—Larrabee-Deyo Motor Truck Co., Inc., Binghamton, N. Y.
Lombard—T.T.—Lombard Auto Tractor Truck Corp., New York, N. Y.
Luedinghaus—1, 1½, 2—Luedinghaus-Espenschied Wagon Co., St. Louis, Mo.
Maccar—1½, 2, 3, 4, 5—Maccar Truck Co., Scranton, Pa.
★MacDonald—5, 7, 7½—Union Construction Co., San Francisco, Cal.
Mack—1½, 2, 2½, 3½, 5, 6½, 7½, T.T.—Mack Motors, Inc., New York, N. Y.
Mason Road King—1—Durant Motors, Inc., Long Island City, N. Y.
Master—¾, 1½, 2½, 3½, 5—Master Motors Corp., Chicago, Ill.
Maxwell—1½—Maxwell Motor Co., Inc., Detroit, Mich.
Menominee—1, 1¼, 1½, 2, 3½, 5—Menominee Motor Truck Co., Clintonville, Wis.
Milburn—Milburn Wagon Co., Toledo, O.
Moreland—1, 1½, 2, 3, 5—Moreland Motor Truck Co., Burbank, Cal.
Nash—1, 2—Nash Motors Co., Kenosha, Wis.
Nelson-LeMoon—1, 1½, 2½, 3½, 5—Nelson & LeMoon, Chicago, Ill.
Netco—2, 2½—New England Truck Co., Fitchburg, Mass.
Niles—2½—South Main Motor Co., Pittsburgh, Pa.
Noble—1, 1¼, 2, 2½, 3½—Noble Motor Truck Co., Kendallville, Ind.
O. B.—1, 2, 3, 5—O. B. Electric Vehicles, Inc., Long Island City, N. Y.
O. K.—1½, 2½, 3½—Oklahoma Auto Mfg. Co., Okay, Okla.
Ogden—¾, 1½, 2½, 3½, 5—Ogden Truck Co., Chicago, Ill.
Old Reliable—2½, 3½, 5, 6—Old Reliable Motor Truck Co., Chicago, Ill.
Oldsmobile—1—Olds Motor Works, Lansing, Mich.
Olympic—2½—Olympic Motor Truck Co., Tacoma, Wash.
Oneida—2, 2½, 3½, 5—Oneida Motor Truck Co., Green Bay, Wis.
Oshkosh—2, 2½—Oshkosh Motor Truck Mfg. Co., Oshkosh, Wis.
Overland—½—Willys-Overland Co., Toledo, O.
Packard—2, 3½, 5—Packard Motor Car Co., Detroit, Mich.
Parker—1, 1½, 3, 3½, 5—Parker Motor Truck Co., Milwaukee, Wis.
Patriot—1, 2, 3—Patroit Mfg. Co., Navelock, Neb.
Penn—2—Penn Motors Corp., Philadelphia, Pa.
Perfection—¾, 1¼, 2, 3—Perfection Truck Co., Minneapolis, Minn.
★Pierce-Arrow—2, 3½, 5—Pierce-Arrow Motor Car Co., Buffalo, N. Y.
Pioneer—1—Pioneer Truck Co., Chicago, Ill.
★Pittsburger—2, 3, 3½—Pittsburgh Truck Mfg. Co., Pittsburgh, Pa.
Power—2½, 3½—Power Truck & Tractor Co., St. Louis, Mo.
Rainer—¾, 1, 1½, 2, 2½, 3½, 5—Rainer Motor Corp., Long Island City, N. Y.
Reo—1¼—Reo Motor Car Co., Lansing, Mich.
Republic—1, 1¼, 1½, 2, 3, 4—Republic Motor Truck Co., Inc., Alma, Mich.
Reynolds—2, 3—Reynolds Truck Co., Mount Clemens, Mich.
★Rowe—1½, 2, 2½, 3, 4, 5—Rowe-Stuart Corp., Lancaster, Pa.
★Ruggles—¾, 1¼, 2, 2½—Ruggles Motor Truck Co., Saginaw, Mich.
Rumely—1½—Advance-Rumely Thresher Co., Inc., La Porte, Ind.
Sandow—1, 1½, 2½, 3½, 5—Moses & Morris Motors Corp., Chicago Heights, Ill.
Sanford—1, 1½, 2½, 3½, 5—Sanford Motor Co., Syracuse, N. Y.
★Schacht—1½, 2, 3, 4, 5—G. A. Schacht Motor Truck Co., Cincinnati, O.
★Selden—1½, 2½, 3½, 5—Industrial Motor Corp., Rochester, N. Y.
★Service—¾, 1¼, 1½, 3, 3½, 4—Service Motor Truck Co., Wabash, Ind.
★Signal—1, 1½, 2½, 3½, 5—Signal Truck Corp. Detroit, Mich.
★Standard—1¼, 1½, 2½, 3½, 5—Standard Motor Truck Co., Detroit, Mich.
Steinmetz—Steinmetz Electric Motor Car Corp., Arlington, Baltimore, Md.
Sterling—1½, 2, 2½, 3½, 5, 7½—Sterling Motor Truck Co., Milwaukee, Wis.
★Stewart—1, 1¼, 1½, 2½, 3½—Stewart Motor Corp., Buffalo, N. Y.
Super Truck—2½, 5—O'Connell Motor Truck Co., Waukegan, Ill.
Tiffin—1½, 2½, 3½, 5, 6—Tiffin Wagon Co., Tiffin, Ohio.
Titan—2½, 3½, 5—Titan Truck Co., Milwaukee, Wis.
Thomart Speed—1¼—Thomart Motor Co., Kent, Ohio.
Tower—1½, 2½, 3½—Tower Motor Truck Co., Greenville, Mich.
Traffic—1½, 2, 3—Traffic Motor Truck Corp., St. Louis, Mo.
★Transport—1, 1½, 2, 3, 3½, 5—Transport Truck Co., Mt. Pleasant, Mich.
★Traylor—1½, 2, 3, 5—Traylor Eng. & Mfg. Co., Cornwells, Pa.
Triangle—1, 1½, 2, 2½—Triangle Motor Truck Co., St. Johns, Mich.
Twin City—2, 3½—Minneapolis Steel & Machinery Co., Minneapolis, Minn.
Ultimate—1½, 2, 2½, 3, 5—Vreeland Motor Co., Inc., Newark, N. J.
Union—2½, 4—Union Motor Truck Co., Bay City, Mich.
★United—1, 1½, 2, 2½, 3½—United Motor Products Co., Grand Rapids, Mich.
U. S.—1¼, 1½, 2½, 3, 4, 5—United States Motor Truck Co., Cincinnati, Ohio.
Velie—1½, 2½—Velie Motors Corp., Moline, Ill.
Vim—¾—Vim Motor Truck Co., Philadelphia, Pa.
★Walker—½, 1, 2, 3½, 5—Walker Vehicle Co., Chicago, Ill.
Walter—2, 2½, 5, T.T.—Walter Truck Co., New York, N. Y.
★Ward—¼, 1, 2, 3½, 5—Ward Motor Vehicle Co., Mt. Vernon, N. Y.
Ward La France—2½, 3½, 5—Walker Motors, Inc., New York, N. Y.
Watson—1, 3½, 5, T.T.—Watson Wagon Co., Canastota, N. Y.
★White—¾, 2, 3½, 5—White Co., Cleveland, Ohio.
Wilcox—1, 1½, 2½, 3½, 5—Wilcox Trux, Inc., Minneapolis, Minn.
Wilson—1, 1½, 2½, 3½, 5—J. C. Wilson Co., Detroit, Mich.
Winter & Hirsch—2½, 3½—Winter & Hirsch Motor Truck Co., Chicago, Ill.
Winther—1, 1½, 2½, 3, 3½, 5, 7—Winther Motor Truck Co., Kenosha, Wis.
Wisconsin—1, 1½, 2, 2½, 3½—Wisconsin Truck Co., Madison, Wis.
Witt-Will—1½, 2, 2½, 3—Witt-Will Co., Inc., Washington, D. C.
Yellow Cab—¾, 1¼—Yellow Cab Mfg. Co., Chicago, Ill.

★Indicates Advertisers. See Advertisers' Index.

# Spring Lake Ready to Welcome S. A. E.

## Summer Meeting, June 18 to 23, Expected to be a Record-Breaker in Attendance. Technical Sessions on Four-Wheel Brakes, Balloon Tires, Fuel and Illumination Problems

IF responses to the formal announcement be taken as an indication of the number of reservations that will be made, one may predict that the 1923 meeting will equal the summer meeting attendance record. The first three mails arriving after the distribution of the reservation blanks brought in more than 200 applications for rooms. The end of the first week witnessed the passing of the 400 mark. Apparently the seashore, the technical program and the recreational diversions have appealed to a large majority of the members.

The first day, Tuesday, will be devoted to the meetings of the Standards Committee and a thorough discussion of the recommendations that will be made by its various divisions. Those who are not involved in the actions of the committee can become acquainted with the boardwalk, the beach or play their qualifying rounds in the big society championship golf tournament. The semi-annual business meeting of the society will be held in the evening, when the members will be addressed by President Alden and the members-at-large of the nominating committee will be chosen. Dancing will follow this business session.

Wednesday will be get-acquainted day. The entire day is being reserved for recreational and social activities. Technical activities start with a very important session on Wednesday evening. This session will be devoted to a discussion of the troublesome problems encountered in head-lamp illumination. State laws are far from uniform and have caused serious complications in the marketing of cars. Anti-glare legislation is developing rapidly and effective means must be found to eliminate any cause for complaints by state highway officials. This matter will be the subject of a paper by R. N. Falge of the research staff of the General Electric Co. at Nela Park. He will supplement his paper with an outdoor demonstration of head-lamp adjustment, light distribution, glare measurement, special lenses and reflectors. This demonstration will be worth traveling many miles to see.

### Four-Wheel Brake Session

Thursday morning has been set aside for the study of four-wheel brakes. A technical session will be started early in the morning and will include several papers descriptive of representative types of brakes that have reached an advanced stage of development. These descriptions will be given by engineers representing the manufacturer of each particular type of brake. Following the descriptions and the papers, there will be a general discussion of the four-wheel brake subject by several representative passenger-car engineers.

The meeting will then adjourn to the roadway in front of the hotels where a demonstration of cars equipped with and without four-wheel brakes will be conducted. These demonstrating cars will also be available throughout the meeting period for personal inspection and driving by the members. Three companies have made definite plans to co-operate in this program to date and others are being solicited.

Thursday afternoon will be devoted to the annual field day of the society. The running races and field events will be run off on the spacious lawn directly in front of the hotels and bordering the ocean and boardwalk.

### Large-Section, Air-Cushion Tires

The session on Thursday evening will be taken up with a paper on large-section oversize tires by James E. Hale, of the Firestone Tire & Rubber Co. Engineers who have driven cars equipped with these so-called balloon or doughnut tires are loud in their praise of the improved riding quality that is claimed for them. Mr. Hale has found many doubts and questions confronting him in the introduction of the air-cushion tire and he is pointing his paper to answer these, in most instances by presenting quantitative data. Three of the large tire companies have agreed to bring cars equipped with the large tires to the meeting and it is likely that a special demonstration of the riding quality of these cars will be scheduled.

### Fuel Session

The technical session on Friday morning will be devoted largely to the work that has been done during the past few months in carrying on the society's fuel volatility study at the Bureau of Standards. These tests are the ones being conducted under the joint supervision of the National Automobile Chamber of Commerce, the American Petroleum Institute and the Research Committee of the Society. The recent work has been devoted to studying the effect of decreasing volatility on crankcase-oil dilution and the findings are of engineering and economic importance. Prof. G. B. Upton will contribute a paper in this session on recent investigations made at Cornell University bearing upon the improvement of fuel economy. The Bureau of Standards staff will bring one or more of their test cars to the meeting for inspection by the members and they are also planning to demonstrate some of their test methods, notably the determination of the degree of crankcase oil dilution.

Spring Lake boasts of a very fine still water outdoor bathing pool surrounded by large verandas and equipped with diving boards and platforms for fancy diving. The presence of these facilities was not overlooked by those in charge of the athletic program and, as a result, Friday afternoon has been set aside for the Swimming Carnival. The final game of the section baseball series will be played directly after the Swimming Carnival. Meanwhile, the golfers, the trapshooters and the tennis followers will be battling for the final honors in their respective fields. All champions must be declared by Friday at sundown.

Friday evening will see the closing of the formal program of the summer meeting with the grand ball and distribution of prizes. The winners of the all-around and section championships will be announced. The dancing contests featured for many years past will be a feature of the grand ball. There will be plenty of recreational and social features incorporated in the Spring Lake program for the ladies and children.

### Reduced Railroad Fares

All members of the society are privileged to purchase round-trip tickets to the summer meeting at Spring Lake for one and one-half times the regular one-way rate. This privilege is limited strictly to members of the society and the dependent members of their families. Certificates must be validated upon arrival at Spring Lake and the society staff is not permitted to pass any certificates presented by persons other than those shown to be members by the society's records.

## New York Dealers Form Commercial Car Division

A commercial car and truck division is being organized in the Automobile Merchants' Association of New York in accordance with a plan adopted by that association. The purpose of the division is, in co-operation with the parent association, to foster the sale and operation of motor trucks, not only in New York City but also in New York State and contiguous territory.

The organization committee consisting of W. T. Elder, E. H. Jonson, Dr. J. T. W. Kastendieck, B. L. Seymour, A. W. Spence, George Stowe and S. M. Williams, has recommended that the following committees be made to function permanently; Executive, Public Relations, Legislative, Used Truck, Membership, Transportation.

"It is our thought," says the organization committee in submitting its report," that with the work of the Division organized along the lines as set forth in this plan, the various problems that confront the motor truck business of this city may be effectively dealt with and that the result will be a vastly improved relationship not between the public and the trade, but also within the trade itself."

This Division is indeed a step forward in the recognition of the truck dealer's problems and should be adopted by other trade associations in the country.

# NEW COMMERCIAL CARS

## Walter Tractor for 20 Ton Semi-Trailers

TRACTOR trailer combinations for hauling large loads because of continued state highway regulatory enactments limiting the total weights per wheels of motor vehicles, are growing in popularity. Besides, with proper type of equipment, tractor trailer combinations are proving very economical from standpoint of reduced transportation costs. However, in order to safely handle these large loads and with the best possible economy, it is necessary to have a tractor unit of exceptional power, traction and adequate braking capacity. The Walter Motor Truck Co., of New York, is now producing a four wheel drive tractor for use with 20 ton semi-trailers.

A four wheel drive tractor of this type has many fundamental advantages for heavy tractor service. It is pointed out that it provides better traction since with just rear drive tractors it is necessary to carry almost half of the pay load on the tractor end of the semi-trailer in order to obtain sufficient traction for even ordinary road conditions. As the allowable weight per wheel is limited by law, the weight on the rear tractor wheels, therefore, limits the possible pay load on the semi-trailer. However, with a four wheel drive tractor less weight is necessary on the tractor end of the semi-trailer, consequently greater pay loads can be carried without exceeding the State limits as to weight per wheel. Besides the hauling of heavy loads involves severe driving and braking strains, which in four wheel drives are divided between the four wheels, reducing wear and depreciation of the tires and drive mechanism.

On the Walter Tractor the front axle and wheels are set well back, resulting in a short wheel base of 100 in., which permits of a very short turning radius and increases the percentage of weight on the front wheels, thereby relieving the rear tractor wheels of excessive loads. This design results in a very easy riding tractor, even when running light without the semi-trailer.

Steering is through the front wheels only. A special universal joint is provided, making for very short steering. The steering control is comparitively easy because of the special construction of the steering mechanism and the patented design of the front wheel steering knuckles.

The Walter suspended drive is employed on both the front and rear axles. This drive is of the double reduction type, the first reduction being by bevel gears and the second reduction by pinions and internal gears in the wheels. The bevel gears, differential and service brakes form a bevel drive unit, the front being mounted in the transmission and the rear being mounted and suspended in the frame. Drive is taken from each side of the differentials through twin universal shafts to the wheel drive pinions.

This drive has a minimum of unsprung weight and maximum capacity for heavy duty service and provides thorough dust and dirt protection and lubrication for all working parts. Power waste, due to binding or misalignment of the working parts, is avoided through the action of universal shafts which take care of any misalignment.

Patented automatic lock differentials are provided at three points; the center differential acting between the front and rear wheels, and a front differential acting between the front wheels and the rear differential acting between the rear wheels. In this way any difference in speed of the wheels when rounding corners is properly provided and at the same time these differentials provide a positive drive to all four wheels so that there is full traction under all conditions.

The engine is of the long stroke type built for heavy duty service. It is provided with oversize bearings and employs the full force system of lubrication. The engine develops high torque at very slow speeds.

The transmission provides five speeds forward and one reverse. With this range of speeds the tractor can run at a 15 m. p. h. in high without racing the engine, and in low gear by means of an 85 to 1 total reduction, developing a draw bar pull of approximately 10,000 lb. The speeds are controlled by a single selective gear shift lever mounted in the center of the truck. The clutch is of the double disk type.

Six brakes are provided, four being located on each side of the front and rear differentials. They are foot operated. The hand emergency brake operates two brakes acting directly on the rear wheels. This extra braking capacity provides an additional factor of safety for the handling of large loads.

This model is also furnished in longer wheel bases for pole trailers and other equipment requiring a greater space behind the driver's seat.

### Edward M. McNamara Appointed by Signal

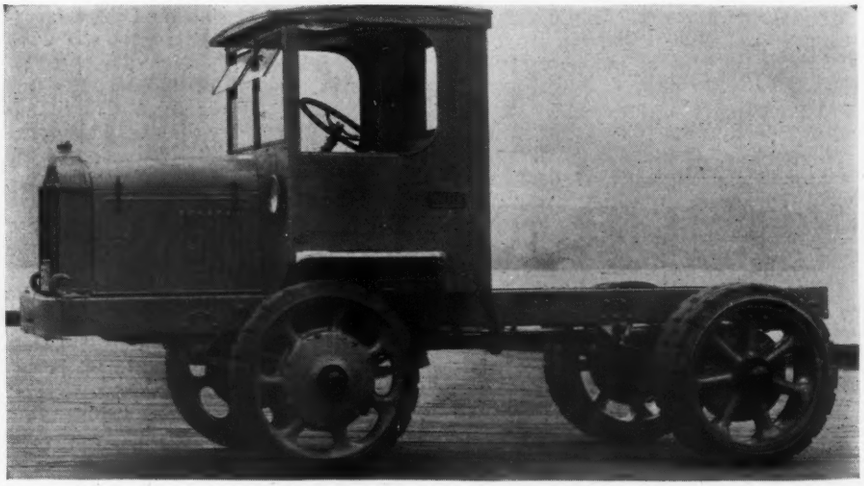
Announcement has just been made that Edward M. McNamara of Buffalo, N. Y., who for the past 15 years has been identified with motor truck sales, has been appointed New York and New England Division Sales Manager for the Signal Truck Corp., of Detroit.

### Smith Resigns From Steinmetz Electric

George Drake Smith announces that he has resigned as sales manager of the Steinmetz Electric Motor Car Corp.

He will engage in the promotion and sales of Investment Securities (principally Public Utility Securities).

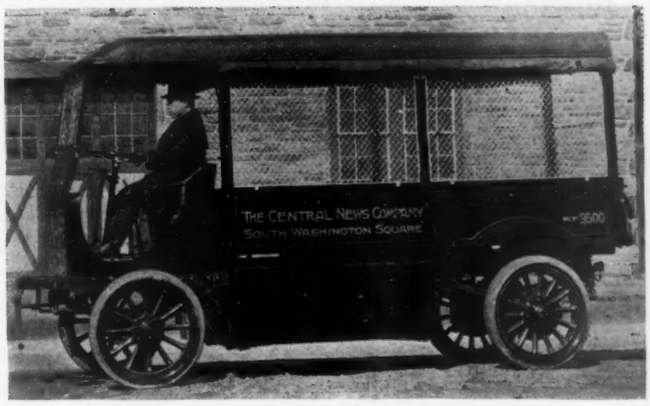
Temporary address is 25 West 43rd St., New York City.



**New Walter Four-Wheel Drive Tractor for Use With Twenty-Ton Semi-Trailers**

# Autocar Electric Offered in Four Models

## Shown for the First Time at the New York Electric Truck Show. Construction Includes Autocar Double Reduction Rear Axle. Electric Motor Under Seat. Special Attention Paid to Maintenance Features




**One-Ton Long Wheelbase Autocar Electric as Used by the Central News, of Phila.**

TO the Autocar Company, of Ardmore, Pa. goes the credit of being the first of the gas truck manufacturers to invade the electric truck field. Although this the first officially authorized trade paper announcement of the Autocar electric truck, it has long been known in trade circles that this company has had electrical trucks in experimental service. In fact two years of investigation and experiment preceded its introduction to the public. Many Autocar electrics are now in active service in different lines of business in widely separated localities.

The Autocar Electric is the result of years of experience in the exclusive manufacture of motor vehicles and in the study of transportation problems. Throughout the entire design the chief thought has been to incorporate sturdy units which will be able to withstand the abuse from drivers who are not trained mechanics. In many ways the Autocar Electric has been simplified, to promote ease of operation and accessibility of all of the important units to save time and labor in maintenance and repair.

The Autocar Electric chassis is designed as a complete unit, with no part of it depending on the body. The dash, fenders, seats, etc., are included in the chassis price. It is designed for left-hand drive to promote ease of getting in and out. It is possible to install a body with the platform close to the ground, so that the load can be handled easily.

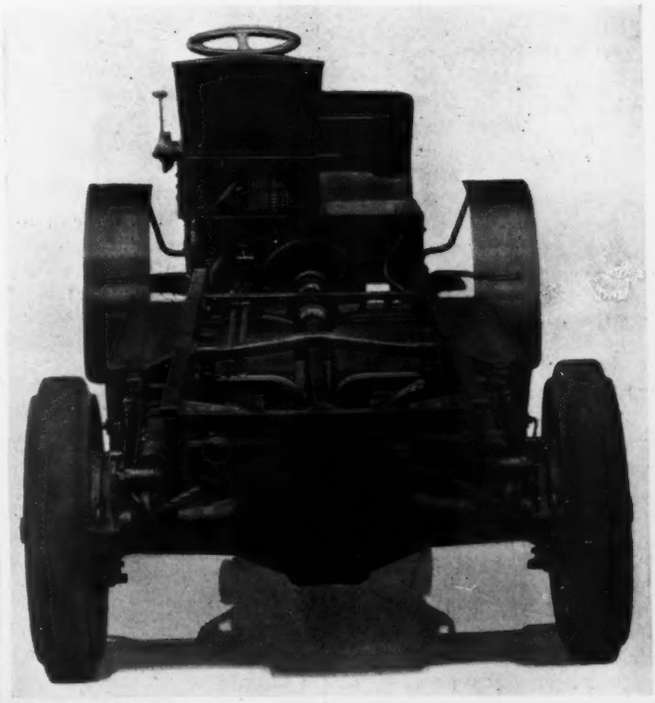
The load-carrying elements of the chassis are of the same design and construction which have been tested by years of successful operation on Autocar gas trucks. The material used is well distributed and in every case where their use is justified, there are heat-treated alloy steel parts.

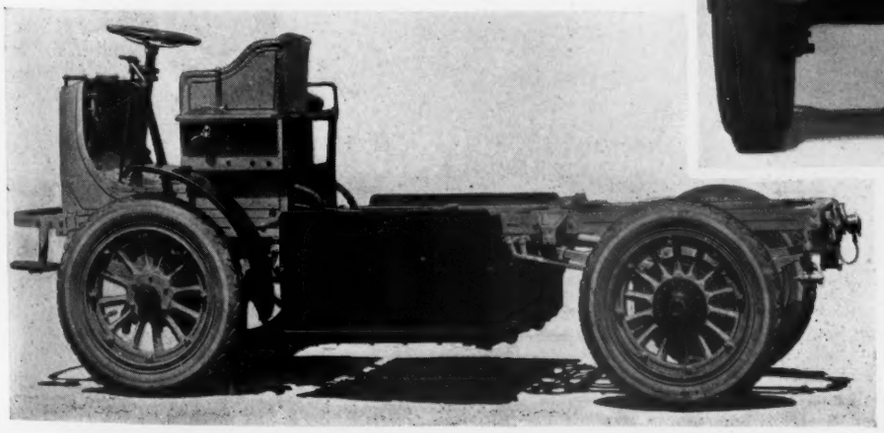
The front axle is drop forging of ample size of the Elliott type, with the fork on the axle. The steering spindles are of heat-treated chrome nickel steel on spindle bolts of nickel steel. The rear axle is of full-floating construction, with the Autocar double reduction gear set mounted on an integral gear plate. All wheels are on taper roller bearings,

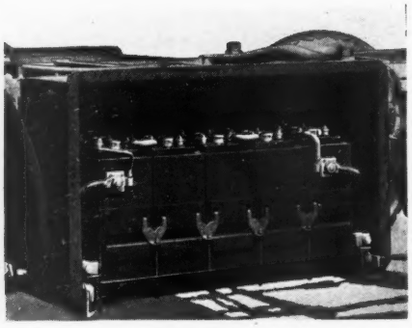
The electric driving motor is mounted under the seat. It is hung in a heavy cross member, which also serves as a support for the front end of the battery. The motor is connected to the rear axle

**Right: Plan View of the Autocar Electric Chassis, Showing Arrangement of Control, Resistance Driving Motor and Battery Compartment.**

**Below: Side View of the Autocar Electric One-Ton Short Wheelbase Model.**







**The Battery Compartment, With Door Removed, Showing Master Tray Construction and Roller Mounting.**

through a three-joint propeller shaft, which is supported in the center by a self-aligning bearing.

The chassis can be viewed as an assembly of proven units, since the frame has been developed in gas truck use, and the electrical driving and control units are the standard production of thoroughly experienced electrical manufacturers.

### Controller and Motor Under Seat

The steering gear is of the semi-reversible type and is solidly mounted in the frame. There is ample ratio to permit ease of steering and make the truck comfortable from this important standpoint. The speed is controlled at the driver's left hand by a lever which operates the controller proper under the seat. Both the forward and reverse operation are handled by this one controller, and there is an H-plate arrangement so that it is not possible inadvertently to throw the controller in the reverse position when the intention is to bring it to the "off" position. The controller is of the type that develops a continuous torque or starting effort in the motor, and there are no jerks is passing from one to another.

Two brakes are provided, the ordinary service stops being made with a foot brake. For emergencies and for holding the car while the driver is away, a hand brake with a ratchet is provided. It is also possible to reverse the motor for emergency braking.

The handle operating the changing-running switch is mounted on the steering column first under and ahead of the steering wheel. This handle can be removed in the off position, and is intended to be removed when the driver leaves the truck for any length of time. In its convenient position it can be used in an emergency to cut off the current, should trouble develop in the wiring or the controller, and when so used, the actual break of the current occurs at a point remote from the driver's hand and on contacts that are insulated from the operating handle.

The mechanical horn is operated by a button on the center of the steering wheel. All of the electrical accessories are mounted on the dashboard. The ampere hour meter, which shows the state of charge of the battery, is mounted on the upper left-hand corner of the dash. When it is specified the shunt circuit breaker is mounted beside the ampere hour meter. This device operates in conjunction with the ampere hour meter and shuts off the charging current when the battery is fully charged. The lighting switch and fuse box are located on the center of the dash.

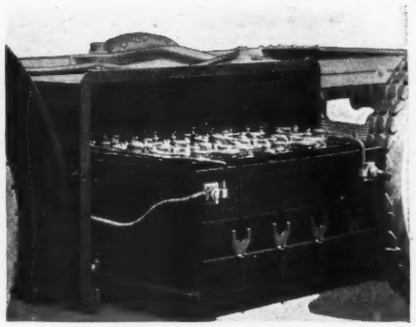
The Autocar double reduction rear axle which is recognized as one of the most efficient means of obtaining the necessary high reduction from drive shaft speed to axle speed has been adopted as standard on the Autocar Electric.

The efficiency of this gear-set under light-load conditions is equivalent to the efficiency of reduction gears on other electric trucks at light loads or under easy running conditions and it exhibits no tendency to develop power losses under heavy-load conditions. Therefore there is no rapid increase of current consumption with increased load or increased road resistance.

The Autocar Electric is provided with a sliding tray construction by means of which the battery trays are mounted in a single master tray, which is on rollers in the cradle, and can be moved, without auxiliary apparatus, into a position where all of the cells of battery can be reached for flushing or other attention. It is unnecessary to break any electrical connections to do this work, and the door of the battery box serves as a lock for the sliding tray. Means are provided for stopping the tray at the end of its travel, but these stops are easily detached when it is neccessary to remove the entire tray from the truck. Therefore, for complete replacement purposes, the battery can be removed easily in two sections and a fresh battery substituted. The trays and compartments will accommodate regular and oversize batteries for the various models. Any standard battery can be installed.

### Spring Mounted Battery Cradle

It is difficult to design a structure successfully to carry such a highly concentrated load as a battery. For convenience in manipulation and to make all of the car platform space available for pay load, this mass should be hung beneath the frame. Such a construction brings the center of gravity of the battery close to the ground. With this relationship, it is not possible for the conventional springs to function properly in cushioning the battery and frame against shocks,



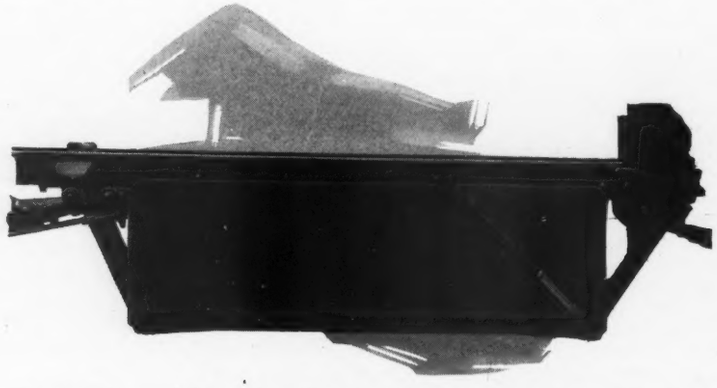
**Battery Tray Pulled Out to Facilitate Watering and Cleaning**

**Note that no connections are broken and no tools are needed**

and the normal accelerations and retardations from a rough road set up heavy stresses, both in the battery and in its supporting frame. These stresses are multiplied many times when the truck backs up against a platform or curb. In the Autocar Electric this problem is relieved by swinging the battery cradle in links to permit movement in the direction of the motion of the car, and with this movement opposed by springs, the Autocar Electric has a construction which eliminates shocks due to this suspended weight.

The details of this construction are shown in an accompanying illustration. The battery trays are carried on an angle-iron platform which is swung below the frame by inclined links. These links are cross-stayed to give them lateral stability and the movement of the box is limited to the direction of movement of the truck. The spring link extends from the front angle of this platform to the cross member which carries the drive shaft steady bearing. The amount of movement is sufficient to cushion the battery against all shocks. The effectiveness of this device is easily demonstrated. It is only necessary to ride standing, first on the frame, and then on the battery compartment, to realize the true value of this feature.

The Autocar Electric is designed with a view to eliminating as much as possible the human element in care. All the necessary functions for maintenance have been simplified and brought to the point where little initiative on the part of the repair man is required. The special mounting



**Autocar Flexible Battery Mounting, Showing Spring Which Takes Up Longitudinal Shocks. Phantom Reveals Battery Spring Suspension**

of the battery simplifies the work around this unit, and with the controller mounted so that it can be inspected, greased and parts replaced at minimum time and with minimum trouble, the most common necessities are taken care of. The motor is so mounted that the condition of the brushes and commutator can be easily ascertained and corrections made. The motor can readily be removed as a unit for extensive repairs. It is so placed that it is protected from dirt and water and it is not subjected to road shocks, and therefore is not easily injured. The resistance is mounted up in the seat box where it is out of road dirt and dust, and can be inspected at the same time as the controller.

### One Wrench for Many Purposes

All of the necessary inspection funtions can be performed by using but one tool, a five-sixteenth-inch cap screw socket wrench. This wrench will release the controller H-plate so that the controller drum can be turned up into plain sight and within easy reach; and it will remove or tighten up all of the connector lugs on the controller and running switch, and will remove all floor boards and cover plates, and can also be used to remove and adjust the controller fingers.

### Simplicity in Wiring

The position of the motor under the seat makes it possible for the motor leads to run directly to the controller without the necessity of enclosing them in conduits or special cleats. Placing the running-charging switch under the floorboard adjacent to the charging receptable helps to simplify the wiring. All wires are run in the open and held with clips, so that repairs or replacements are facilitated. In the battery box, the lead connecting the two sections of battery runs through a conduit, and there is therefore no exposed power wiring on the chassis back of the driver's seat. The lighting wires are all run on the dashboard with the leads to each lamp run independently and all connections are made in a junction box. All lighting circuits are properly fused. With the exception of the tail-light lead, there is no wiring on the chassis back of the driver's seat, and this feature, in connection with the water-proof top of the battery box, gives a construction which is specially proof against water or drippings from the load on the car.

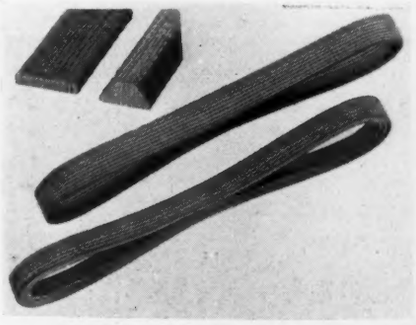
### Built in Four Models

The Autocar electric truck is built in one and two ton models with 97 and 120-in. wheelbases in each case. Specifications of these models are as follows:

| | E1F | E2F | E1G | E2G |
|---|---|---|---|---|
| Length of wheelbase | 97″ | 97″ | 120″ | 120″ |
| Length over all from front of bumper to end of frame | 156″ | 156″ | 179″ | 179″ |
| Width over all to outside of hub caps | 70″ | 70″ | 70″ | 70″ |
| Width of battery compartment | 65″ | 65″ | 58″ | 58″ |
| Length of frame back of seat | 98″ | 98″ | 121″ | 121″ |
| Back of seat to center rear axle | 74″ | 74″ | 97″ | 97″ |
| Turning circle | 38′ | 38′ | 42′ | 42′ |
| Weight of chassis without battery but with seat structure, dash, mudguards, etc. (lb.) | 3,700 | 4,000 | 3,800 | 4,100 |
| Total maximum weight chassis, battery, body and load (lb.) | 9,500 | 12,500 | 9,500 | 12,500 |

## Rossendale-Reddaway Offers New Fan Belts

A straightline endless fan belt for any make of tractor, truck or passenger car is being offered by the Rossendale-Reddaway Belting & Hose Company, Newark, N. J. Both the flat and V-type belts are 18 oz., square woven fabric with very long staple. They are impregnated with a special compound making them impervious to water, heat and oil, and also reduces slipping and friction in driving. These belts are packed in individual silicated boxes. Special counter displays, consisting of nine of those individual boxes and one loose belt banded for convenience in displaying, are also furnished in a special counter carton.



**Complete and Sectional Views of the Flat and V-Type Belts**

## Mayson Re-Carbureting Valve

The Mayson Re-Carbureting Valve offered by the Mayson Automotive Equipment Corp., 819 East 55th St., Chicago, Ill. has been designed and developed to assist the carburetor in supplying maximum engine requirements and to overcome the detrimental effects caused by the carburetor throttle, manifold conditions, heavy motor fuels and atmospheric and altitude extremes.

It operates automatically with no adjustments or springs and fits between the carburetor and inlet manifold without drilling or tapping. During acceleration the gates of the valve force the gasoline to combine with the air stream as it enters the manifold, producing a highly atomized, thoroughly mixed mixture to reach all cylinders.



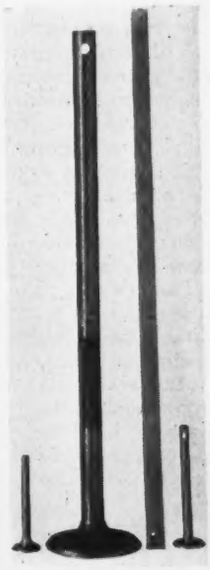

**Cutaway Showing Construction of the Mayson Re-Carbureting Valve**

## A New Development in Valve Metallurgy

The giant valve in the center, used in a Diesel engine, was made specially of Thomson Silcrome by the Steel Products Company, Cleveland, to withstand extreme warping and burning strains that result from the crude oil fuel and high pressures in this type of engine.

The pressure per square inch in the Diesel cylinder condenses the oil vapor to such an extent that no spark plug is necessary to explode the mixture, compression alone developing sufficient heat to do this, once the engine has turned over. The engine is started by an "auxiliary spark plug," compressed air, or by heating a "ball" on the block to a temperature that will cause the first explosions.

The big valve is ground or lapped into the cylinder block in much the same manner as the regular automobile valve, a large brace being employed to rotate it against the seat. The valve at the left, one of the smallest, is made for the stationary engine of a small household lighting unit, and the one at the right is an average size gasoline engine valve.



**Three Valve Sizes**

**The giant valve is used in a Diesel engine. The one at the left in a stationary engine and at right in a gasoline engine valve**

The Thomson Silcrome valve, a new development in valve metallurgy, has already been adopted by many automobile manufacturers because it is practically indestructible in the engine. It does not burn or warp and is said to wear four to six times as long as ordinary valve materials.

New York, Ohio and Illinois are the three States having the largest motor truck registrations, the totals being 185,858; 117,832 and 99,724, respectively.

# Childs Motor Pick-up Street Sweeper

THE Childs Motor Pick-up Street Sweeper is now ready for introduction to the trade. Announcement of this new product was recently made by the Foamite-Childs Corp., Utica, N. Y. In perfecting the present mechanically successful sweeper the engineers of this company managed to surmount many obstacles, which formerly hampered economic operation. These mechanical difficulties common to this type of conveyor have not only been removed but a greater amount of working dependability has been incorporated. The plans of this new pick-up sweeper were based on experience in actual construction work on other sweepers already on the market, and on the sound knowledge that the benefits of motor sweeping would never outgrow a limited field until municipal authorities could purchase a more dependable machine and one which would require minimum cost for operation.

A noteworthy improvement in this sweeper is its automatic gutter broom that works in and out with the curb line, independently of the driver. The earlier types of sweeper did not have this provision for cleaning gutters, with the result that additional men were required to complete regular cleaning equipment. Today with increased traffic pushing more refuse from the center of the street toward the gutters a greater need was created for a special attachment for cleaning the gutter. The gutter broom attachment was developed to take care of this need. It not only cleans the gutters more efficiently but with a great saving of labor cost as well. This feature, however, represents only one of the many new points of superiority prominent in this new product. The following is a brief outline of some of the other new points of construction.

The design of the large rear broom is such that wear automatically shortens the distance between the broom and conveyor. Fouling of the conveyor through breakage of the shear pins is prevented by the broom coming to a complete stop. The conveyor is of large capacity and of the non-clogging type. Heavy sweepings are claimed not to choke the conveyor.

The removable bottom, which in itself is a feature, is easily replaced. The inside surfaces of the hopper are smooth, straight side, not having shelves or bridges tending to hold back sweepings when the dump is operated. Only six drive chains are employed on the entire machine, including the conveyor. The sweeper can be operated while the machine is at a standstill. Mechanical parts are readily accessible. The working speed is 9 m. p. h.

As may be ascertained by casually glancing through the specifications this conveyor is well balanced in the assembly of all its units.

The "Childs" Sweeper is of the four-wheel type and employs the Reo Speedwagon power plant with right hand drive and self starter. It is a one man machine with all levers so arranged that the operator has complete and convenient control without leaving his seat. The rear axle of the Speedwagon is moved forward and converted into a jack shaft. The brake assembly remains unchanged. The extension stub shafts or jack shaft extensions are mounted on S. K. F. self-aligning ball bearings. Main drive is through roller chain from jack shafts to each rear wheel.

An auxiliary transmission is mounted between the transmission and differential to give power for operating conveyor, large broom, gutter broom, and water pump.

The large broom is driven by a roller chain on cut steel sprockets. It is built up on grooved wooden core with end casting to protect fibre. Size 32 in. diam. by 6 ft. in length. Shaft runs in self-aligning bronze bearings, with large oil pockets. The filling for broom is optional, being steel or split bamboo. One extra broom furnished with each machine. This rear broom is quickly adjusted to the roads and is automatic in operation after adjustment, following the pavement with just enough pressure to do good work.

The housing of the rear broom is steel, hinged at top with special locking device.

The conveyor is driven by roller chain on cut steel sprockets. The wooden pins used to drive the conveyor shear if anything gets into the conveyor that cannot be readily carried up to the hopper. These pins are in plain sight of the driver so that he knows at all times just how his machine is working. The conveyor is of all-steel construction with removable bottom. Rubber squeegee type. Squeegees mounted on extra carbon steel angles form the flights. The roller chain running on cut steel sprockets has a tensile strength of nine tons. Hollow shafts of large diameter both top and bottom run in self-aligning bronze bearings, with large oil pockets. An anti-clogging device takes all undue strain off the conveying mechanism and allows piled material to be swept without clogging the conveyor. The hopper or dirt receptacle is also of all-steel construction.

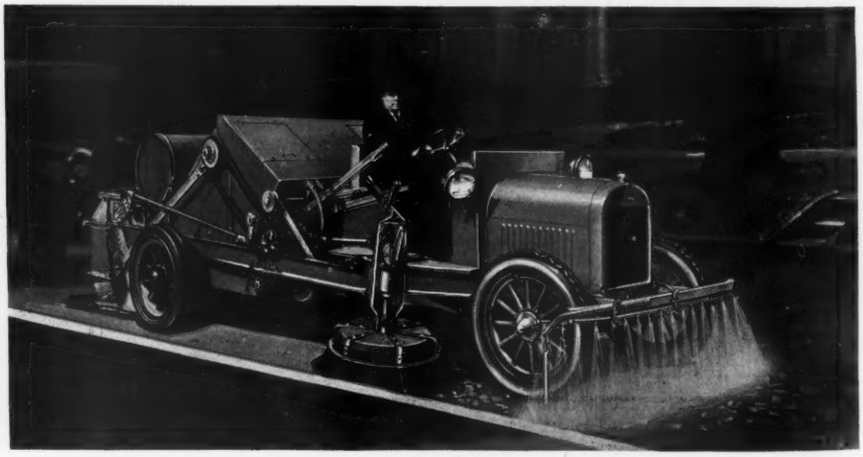
The gutter broom is driven through a universal joint assembly from auxiliary transmission. The broom is steel fibre filling, built up to 42 in. diameter in 6 segments that are easily and quickly changed when broom is worn out. It is operated by bevel cut steel gears running in an oil bath, on annular contact ball bearings. The working range, 7 in.

The water sprinkling system consists of of a 150-gal. galvanized iron tank with brass strainers at intake and outlet. Water runs by gravity to rotary gear Demming brass pump which forces water to brass nozzles mounted under the bumper in front. The water spray is controlled by the driver. Unused water is returned to the tank by a by-pass.

## Westinghouse Earns Twice Its Dividends

The net income of the Westinghouse Electric & Manufacturing Co. for the year ending March 31, 1923, was $12,263,485, as shown by the company's annual report. The dividend requirements were $6,033,428, so that over twice this amount was earned and more than six million dollars added to the surplus. Gross sales for the year were $125,000,000, which represents an increase of $25,000,000 over the sales of last year. The cash position of the company is a strong one, the current assets totalling over $106,000,000, and the current liabilities less than $17,000,000.

"The bookings of new business steadily increased during the year," states Guy E. Tripp, chairman of the Board of Directors, "and the value of unfilled orders at the close of the year was $61,914,237, as compared with $50,740,696 at the close of the previous year.



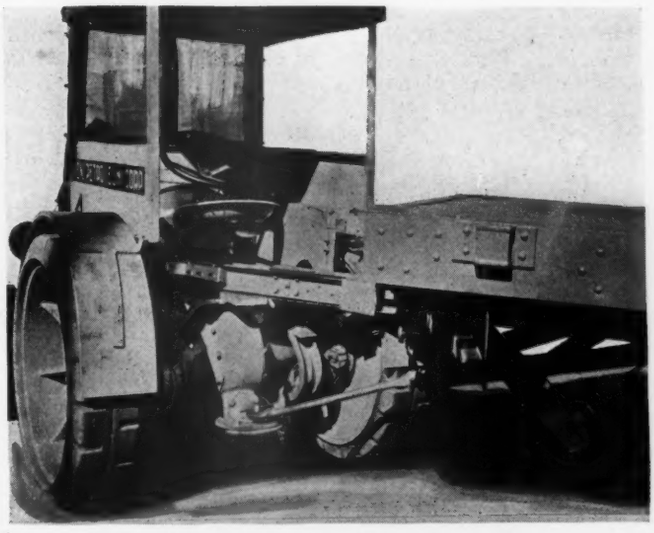
**The Latest Development in Street Cleaning Sweepers is the Automatic Gutter Broom**
This addition makes this job as complete a self-contained unit as possible for cleaning service

# New Utility Semi-Trailer for Use With Fordson Tractor

A REPORT from the West brings with it news of the latest trailer development. The Utility Trailer Mfg. Co., Los Angeles, Cal., recently placed on the market a new 5-ton semi-trailer for use in connection with the Fordson Tractor.

This new hauling unit embodies many new and exclusive features that are more or less an innovation in construction of trailers intended for this service.

Of most particular interest is the unique manner of coupling to the tractor. This is accomplished by a rocking platform hinged below the tractor axle on collars that clamp around the axle. This permits the platform to hinge back at an angle, so that when tractor is backed into the trailer the weight carrying tongue swings into place smoothly and noiselessly. This method of mounting has proven to be a decided improvement over the customary friction slide.



**Close-up Showing Mounting and Coupling**

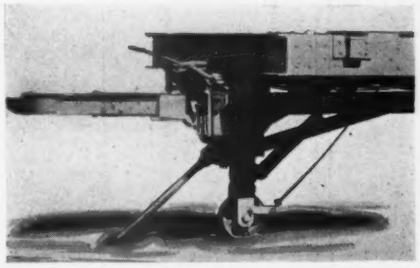
Note the steel caster wheel. This wheel lets down when the tractor is detached, making the tractor movable at will

Another exclusive feature of the Utility Fordson Semi-Trailer is the front caster wheel which supports the trailer when the tractor is detached. It also permits easy movement of the trailer in any direction.

Strain and pounding on the Fordson axle housing and bearings is relieved by a spring under the front end of the trailer. This spring also prevents the transmission of road shocks and vibration of the load.

With this trailer, possibility of the front end of the tractor raising up when getting under way, has been eliminated by mounting the weight of the front end of trailer at a point directly under the Fordson axle and close up to the hubs, and by having the draw bar attached to the under side of the Fordson differential. These factors not only eliminate danger of the tractor rearing up, but also provide tremendous traction for the drive wheels.

The Utility Fordson Semi-Trailer is equipped with a standard type of stake body, 6½ x 14 ft., mounted on chrome vanadium springs 52 in. long and 3 in. wide, containing 13 leaves. Tires are 36 x 10 solid press-on type. Rear axle is solid, high carbon heat-treated steel 2¾ in. square and equipped with Timken roller bearings. Brakes are external contracting type and hand operated.



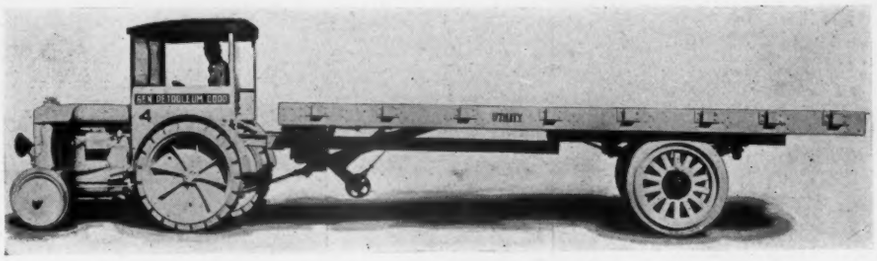
**Showing the Large Channel Carrying Bar and Spring Construction**

In the semi-trailer type of commercial vehicle, many novel and important features present themselves that go a long way toward solving some of the big transportation problems that face every class of hauler. For instance in a vehicle of this nature, on account of the weight being distributed over 6 wheels instead of 4, a 75 per cent greater load can be carried without exceeding the legal weight limits for the highways.

The Utility Fordson Semi-Trailer has also proven a boon to industrial corporations and others, on account of the fact that two or more trailers can be used with just one tractor. While the Fordson is delivering one loaded trailer, the other trailers are being loaded and on the return of the tractor, merely have to be coupled and the tractor is away again with its new load, without the waste of a single moment.

The following is a resume of additional specifications not previously mentioned:

**Model**—FS5 Fordson Semi-Trailer.
**Capacity**—5 tons.
**Loading Height**—Approximately 48 in.
**Axle**—2¾-in. square high carbon heat treated steel.
**Bearings**—Timken roller.
**Spring Semi-Eliptic** — Chrome Vanadium, 52 x 3 in., 13 leaves.
**Radius Rods**—Direct spring shackle to axle pull.
**Brakes**—External, hand-operated.
**Wheels**—Hickory, 36 x 8 in., Artillery type.
**Weight**—5035 lb., including body.
**Special Equipment**—Heat treated steel caster wheel for moving trailer when detached.
**Special Equipment** — Tested safety chain paralleling drawbar.



**New Model F 55 Utility Trailer, a Fordson Semi-Trailer of 5-Ton Capacity**

## Federal Holds Sales Division Convention

The National Sales Division of the Federal Motor Truck Company has just completed a three-day convention at the Factory, where elaborate plans were made for the expansion of this end of the business. R. J. Schuler of New York, H. C. Allison of Chicago, E. R. Frech of Chicago, Myles E. Ewing, manager of the department and Ward W. Mohun of the Federal factory in Detroit were in attendance at the conference and were directly responsible for the promotion of national sales for the Federal Company.

# Three Compartment Tour-a-Bus for the South

AN interesting development in bus construction is the Tour-A-Bus body, manufactured by the Weatherproof Body Corp., Corunna, Mich. One of the accompanying illustrations shows this job mounted on a G. M. C. special chassis. Two of these were recently shipped to Shreveport, La., where they are at present being employed on a 60-mile route out of Shreveport in the bus service provided by W. H. Johnson.

These bodies, known more specifically as model 64, are 224 in. long, overall, and have six seats, each of which will commodiously accommodate four persons. Two partitions divide the interior into three compartments. The rear compartment which has two seats facing each other is intended for the use of colored patrons and the center compartment for those wishing to smoke. Many new characteristics in improved design and construction with special features making for safety, comfort and economical interurban bus transportation in any climate are readily notable.

The framing is entirely of hard wood, strongly braced. Modern flat construction base sills raises the floor only 2½ in. above the chassis frame. The body panels are of selected steel and the deck construction is strong, very light and non-rumbling.

The windows are of the patented "Weatherproof" type—a flexible steel, leather covered frame, which passes up between the deck covering and lining, out of sight. Heavy transparent pyralin lights avoid danger from breaking glass and reduce liability, insurance cost. Unlike glass, pyralin conducts almost no heat or cold. Windows of this type also eliminate rattles and noises.

Taken together with the special light deck construction, overhead weight in Tour-A-Bus bodies is claimed to be reduced to a minimum and center of gravity brought unusually low.

Two large stationary glass windows in back give full rear view for driver and passengers. Doors of liberal size are located on both sides of bodies to serve each seat. Strong locks and hinges make the doors secure. They cannot be opened until windows are raised.

Heavily upholstered cushions with Marshall type springs are used on the full width cross seats. Novel construction allows storage room under seats for small baggage. The front end of body converges in pleasing lines to meet the dash of chassis. Treatment of windshield and front diagonal windows gives driver perfect vision in all required directions.

The general dimensions herewith give full details of measurements, and size of chassis required on the models 43, 44, 54, 64 and 55.

| Model No. | 43 | 44 | 54 | 64 | 55 |
|---|---|---|---|---|---|
| Capacity (including driver) | 11 | 16 | 20 | 24 | 24 |
| Length overall | 152″ | 152″ | 189″ | 224″ | 189″ |
| Length, dash to center of wheelhouse | 103″ | 103″ | 135″ | 165″ | 135″ |
| Height—Sill to belt line | 30″ | 30″ | 30″ | 30″ | 30″ |
| Sill to outside of deck | 64″ | 64″ | 64″ | 64″ | 64″ |
| Floor to inside of deck | 61″ | 61″ | 61″ | 61″ | 61″ |
| Width overall at belt line | 64″ | 78″ | 78″ | 78″ | 88″ |
| Number of seats | 4 | 4 | 4 | 6 | 5 |
| Passenger capacity each | 4 | 4 | 5 | 6 | 5 |
| Width of seats | 52″ | 66″ | 66″ | 66″ | 77″ |
| Depth of seats | 19″ | 19″ | 19″ | 19″ | 19″ |
| Distance back to back of seats (average) | 36″ | 36″ | 36″ | 36″ | 36″ |
| Height of seat-back, cushion to top | 20″ | 20″ | 20″ | 20″ | 20″ |
| Width doors and windows | 25″ | 25″ | 25″ | 25″ | 22″ |
| To fit chassis having wheelbase approximately | 128″ | 128″ | 150″ | 178″ | 150″ |
| Weight (lb.), approximately | 1200 | 1500 | 1800 | 2100 | 2200 |



**Specially Designed to Meet the Peculiar Requirements of the South**

The other view is that of a 21-passenger Metropolitan type bus body, which was built for the Durant Motors, Inc. It is mounted on a Mason Road King chassis and is of particular interest because of the treatment of the front and the unusually graceful lines obtained by the application of skirting in relation to the front entrance door. Body is 190 in. long, 88 in. wide, and 72 in. high. It is fitted with rattan covered seats and in general design follows the usual practice.



**Weatherproof 21-Passenger Job Built for Durant**

# The New International Motor Touring Home

ALL the thrills and benefits of a long automobile trip over mountain road or backwoods trail with the numerous comforts of home and no hotel expense may be provided by the latest motor vehicle, the International Touring Home.

Real ingenuity has been exercised in making the equipment complete in its home appointments without being top heavy or cumbersome. Every facility for properly cooked meals, real beds, just as comfortable and roomy as those at home, and complete protection against inclement weather are features that will make it a treat to travel in this latest type of home on wheels.

Bodies of airplane plywood varying in length from 11 ft. 8 in. to 19 ft. 5 in. and in heights from 56 in. which is standard, up to 76 in. with standard width of 5 ft. are available. Two to four passengers can comfortably travel in the smaller and medium and two to six in the larger sizes.

To the right in the rear is a kitchen cabinet; on top of this is a three-burner stove. Other cabinets contain provisions and tableware packed in such a way that there is no rattle. The tableware furnished with the touring home is complete and includes non-breakable dishes, napkins, tablecloths, and high-grade silver. The doors of one of the cabinets at one side swing up and form a table. The two seats may easily be swung around so that the passengers can sit at this table and eat their fill with comfort.

When arranging sleeping quarters, the seats, which are collapsible, are first put out of the way. Then the bed at the left side with full-size springs is let down and opened up the full width of the car. When not in use, this bed with pillows and blankets is protected by a canvas cover. Another bed with full size mattress may be let down at the rear and held two feet above the ground by chains hooked on to the top of the body. When not in use, this bed is fastened against the rear of the body and is covered by a dust-and water-proof canvas.

The bed in the rear is completely covered and curtained by a double tent carried on the top of the body, which in the daytime may be used as a protection from the sun when passengers wish to eat outside. Flexible windows are provided in these curtains. When it is desired to eat outside, the cabinet doors which form the table inside can be removed, fitted together, and mounted on collapsible legs. The regular cushioned seats are also easily removable and can be used to sit on. The stove is portable and cooking may also be done outside whenever desired.

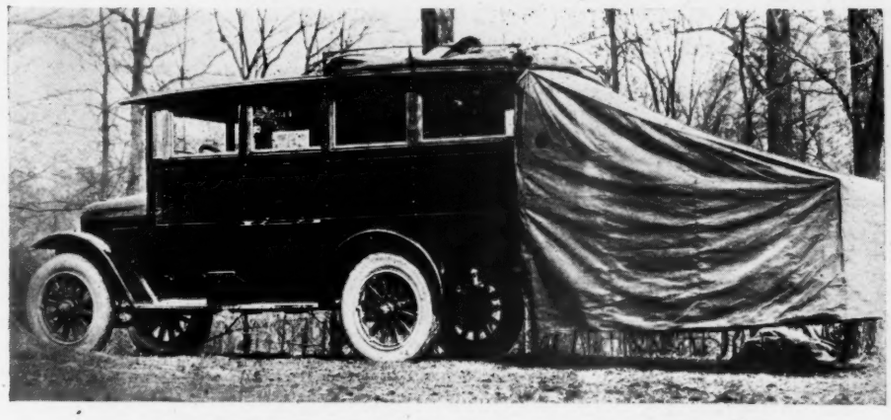
There are boxes for camping tools—all the tools are provided—convenient racks for clothing, a canvas water bottle which keeps the water cool by evaporation, toilet facilities, electric lights; in fact, everything one has in the home.



**The Dining Car Provides Comfortable and Complete Accommodations**



**One of the Special Bodies Now Supplied by GMC**



**The New International Touring Home Prepared for the Night**

## GMC Ton Units to be Furnished With Express Bodies

One ton units of the General Motors Truck Co., Pontiac, Mich., can now be furnished equipped with an open express body, with or without top, and with either an open or a closed cab according to a recent announcement.

This announcement contains much interest since it had been the policy, for years, to market nothing but the chassis. This had been the general practice of truck makers for the reason that many buyers preferred to dictate the style of body they wanted mounted on the chassis which were in the majority of cars either built by some local company or bought entire from a body maker.

Within the last few years, however, V. H. Day, general sales manager of this company said the need has been felt for a line of trucks which can be delivered in complete form.

There will be no change in the policy of the company, in furnishing chassis for all needs. Mr. Day says that the company will continue to put out the one ton, two, three and a half, and five ton chassis as well as the five, ten, and fifteen ton tractors. The bodies on the one ton units will be furnished simply as an extra service to buyers and will give the company a total of 11 models in its line.

These bodies will be furnished in a deep shade of green with a chassis of drab green being painted to do away with any loss of time in deliveries.

# TRUCK EQUIPMENT AND APPLIANCES

## The Teagle High-Tension Magneto

THE Teagle Model "LR" magneto is the latest product of the Teagle Company, Cleveland, Ohio, and in all respects retains the well-known Teagle features of simplicity in design and electrical characteristics. It is of the inductor type, having a stationary coil and a complete absence of moving wires and collector rings. The magneto adheres strictly to the S. A. E. standards.

The model "LR" is designed for use on all four cylinder internal combustion engines. This same model is also furnished with an impulse starter, in which case it is designated as model "LR-89," and with battery connection as model "LRB."

In other words, the Teagle Company is now supplying its standard model, as follows:

Model "LR"—Standard model without any attachments; a straight high-tension magneto.

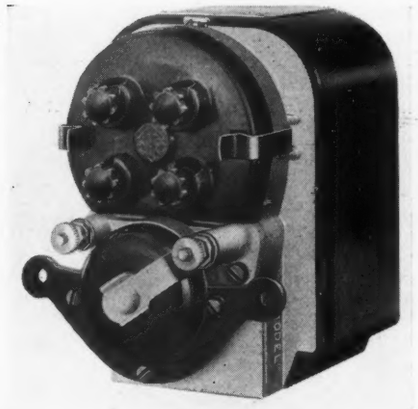
Model "LR-89"—With impulse starter.

Model "LRB"—When used with storage battery current for starting.

The model "LRB" (B indicates battery) represents the latest achievement of the Teagle Company. By employing this model the use of the impulse starter is eliminated for the simple reason that by attaching a lead from the storage battery to the magneto it is possible to obtain an exceptionally hot spark for starting purposes at the slowest cranking speeds of the engine. In one of the accompanying diagrams the method of connecting the magneto with the battery is clearly indicated.

When the switch is thrown on the battery side, the current from the battery is shunted through the primary coil in the magneto thus acting as a booster to the permanent magnet field of the magneto. This particular arrangement readily provides a means for obtaining that hot spark which is so essential to cold weather starting.

One of the diagrams shows a "push button" starting switch, the purpose of which is to provide a means for starting the engine on compression. Anyone who has had any experience with the battery spark coil system of ignition knows that



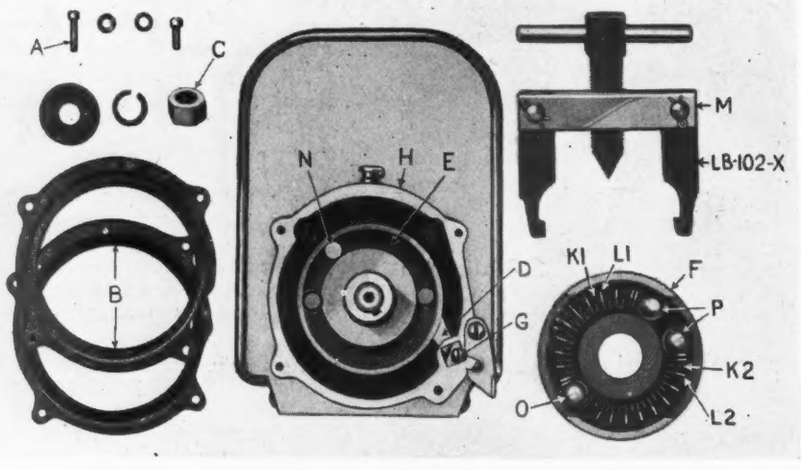
**Front View of the Teagle Model LRB Magneto**



**Rear View of the Model LR Magneto Equipped With Model 89 Impulse Starter**

it is possible to use this to start an engine without cranking, especially after the same has been warmed up sufficiently. In other words, after switching off the spark, a sufficient quantity of gas remains in the cylinders under compression to permit of starting without cranking the engine. All that is necessary is to close up the primary circuit of the spark coil, and thus shoot a spark from the secondary circuit into whatever cylinder happens to be on compression. With the spark coil or commonly termed battery system this was readily accomplished.

The same idea is employed in the "LRB" Teagle magneto. The "push button" permits the starting of the engine on compression. After the operator has cranked the engine in the morning, all he needs to do when stopping is to choke the carburetor for an instant. This puts a charge of gas in the cylinders for the next start. All he has to do then is to push the button quickly, which closes and opens the circuit. Possibly 80 to 90 per cent of the times the engine stops with the magneto breaker points open. Of course, should it so happen that the magneto stops with the points closed, it may still be possible to start the engine by throwing the battery switch on and off. Otherwise he will have to crank the engine.




**Rear View of Magneto With Impluse Starter Disassembled**
Operation of this device described in text

### Description of the Teagle Magneto

This magneto is of the direct high-tension inductor type. The current is generated by the rotation of an unwound rotor, which shifts the flux first through and then around a high tension coil or winding as shown in diagrams.

When the rotor is in position "A" the entire flux from the magnets passes down through the main pole, through the coil or winding, then through the rotor into the base "B," thus completing the circuit through the permanent magnets at the sides.

As the rotor revolves, it comes into position "C," in which position the flux flows through the bypass "D" instead of through the main pole, and the flux is thus carried outside of the coil, completing the circuit through the rotor and the base and returning through the permanent magnets at the sides as before indicated. It should be noted that this is no reversal of flux in the circuit, and therefore no demagnetizing effect on the magnets.

The coil or winding is composed of two sections: one near the pole consisting of a few turns of coarse wire and commonly called the primary. The secondary or high-tension winding, consists of many turns of fine wire, and is wound directly on top of the primary or coarse wire. These two windings are connected to each other and to the ground. One end of the coarse wire winding is connected to an interrupting device on which are mounted the breaker points. This device is operated by a cam fixed to the rotating shaft, and short circuits the coarse wire winding after the entire flux has passed into the coil.

As the rotor moves and the flux decreases in the coil, a current is set up in the coarse wire winding which is broken, when it reaches a maximum, by the interrupting device. This sudden breaking of the current induces a high voltage in the fine wire winding which breaks down the gap at the spark plugs and produces the ignition spark.

The continued movement of the rotor from this point causes a still further decrease of the flux in the coil and the induced voltage causes current to flow through the fine wire or high tention winding and the spark plug gap over which the spark has jumped, thus producing an arc at the gap.

The value of the ignition spark consists not only in the initial jump, which is merely a breaking down or starting condition between the points of the spark plug, but also in the heavy follow-up current or arc produced by the continued movement of the rotor.

There is always a tendency to arc at the breaker points of an interrupter. This is overcome by connecting a condenser in parallel with the points.

In the Teagle Magneto the coil and condenser are so well balanced that the arc is practically eliminated, giving very long life to the points.

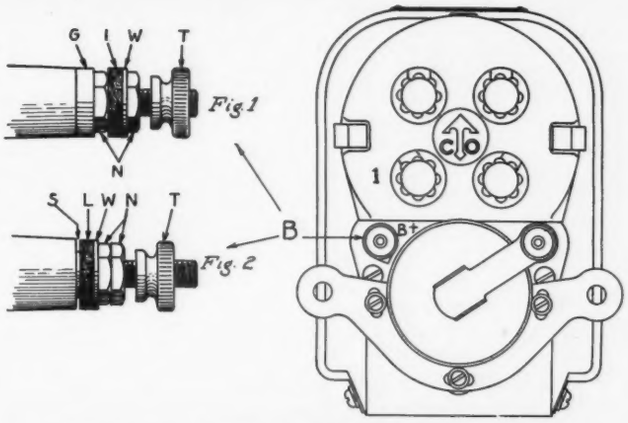
The current from the high tension coil is directed to the proper cylinder by means of a distributor of the conventional type.

The Teagle Magneto produces two sparks per revolution of the rotor, therefore, on four cylinder four cycle engines, the magneto must be driven engine or crankshaft speed. This magneto is designed to operate in clockwise direction only, when facing drive end.

A flexible coupling should always be used and preferably should be of the adjustable type to facilitate accurate timing. When the impulse starter is used in connection with the magneto the coupling should be of the Oldham type.

As mentioned before, the model "LRB" is the same as the model "LR," except that one end of the low tension winding, instead of being grounded in the usual manner, is brought to an outside terminal which is referred to as the "battery terminal." This terminal is located at the left-hand side of the breaker box, viewed from the breaker end, and is marked to indicate the correct polarity of the battery connection.

The advantages obtained by using the "LRB" model are two-fold. In the first place the engine can be more readily fired when starting up on cold mornings, and in the second place, the magneto permits frequent starting and stopping by simply pushing a button.

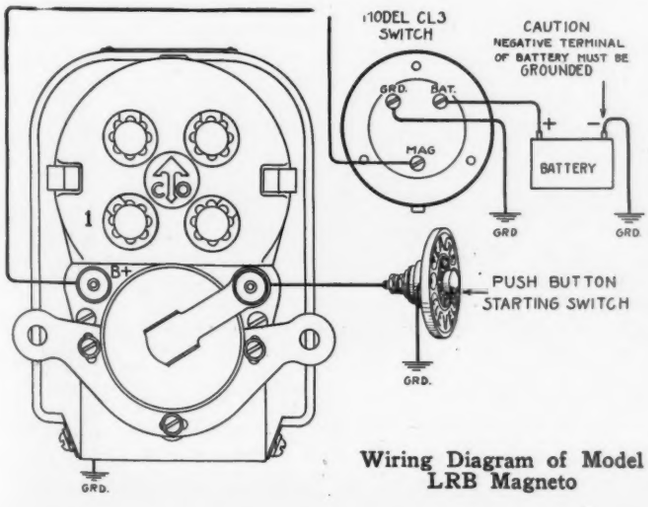



### Instructions for Installing Model LRB Magneto

**When shipped from the factory the battery terminal post B is assembled as shown in Fig 1. In this condition the magneto can be used as a standard model LR magneto without battery connection. Before connecting up the battery, a reassembly must be made of the parts on the battery terminal post B as follows: First—Remove parts GNLW and T shown in Fig. 1. Second—Reassemble these same parts in the order shown in Fig. 2. There will be a space left at S back of the shoulder. The part G is not used in this reassembly. Third—The positive terminal of the battery should be connected to this terminal post B after the reassembly is made. Unless this battery connection is made the magneto will not function after being reassembled.**

### The Teagle Impulse Starter

Where no provision has been made for battery current on the vehicle, the impulse starter is recommended. The New Teagle Impulse Starter has been considerably improved over the former model built by this company. Formerly one long spring and a short buffer spring were used. In the new model, two springs are used in addition to three steel balls, which move in a groove. With the former type of impulse starter, a life of six or seven hours was the maximum obtained. This meant continuous operation of the magneto at a speed of about 100 r.p.m. with impulse starter tripping twice per revolution, which is equivalent to approximately two years of operation of a truck under normal conditions of starting. Therefore, the record which the new model has shown of seventy-two hours of continuous operation, means a great increase in the life of the springs, also that the impulse starter is practically immune from failure during the life of the truck.




**Wiring Diagram of Model LRB Magneto**

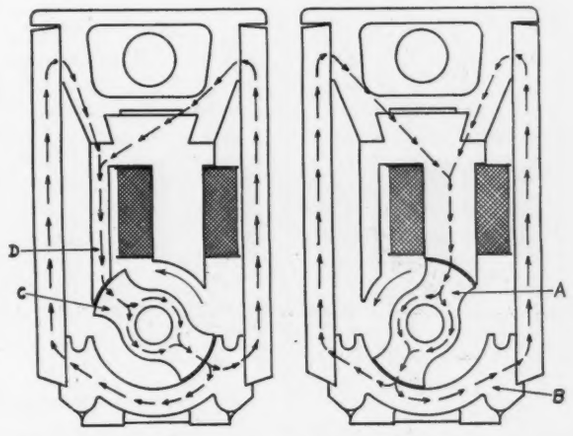



**Diagram Showing Flow of Flux Through Magneto**

### Description and Operation of the Teagle Impulse Starter

The Model 89 Automatic Impulse Starter consists of a stop lever carrier E, which is keyed to the magneto rotor shaft, a spring case F, which is free to turn on the hub of the member E, two spiral springs and three steel balls. The members E and F when assembled with the springs and balls in place form a driving coupling between the engine and the magneto. Housing H and dust felt retainers B are provided for enclosing the impulse starter so as to make it dust and water-proof.

An annular groove is machined in the large diameter of the spring case cavity. This groove forms a race for the steel balls as well as a track for the springs, thus permitting free action of the balls and springs and also preventing excessive rubbing against the carrier E. The three balls O and P are hardened, ground and polished similar to those used in ball bearings. The spiral springs L1 and L2 are made of a high grade spring steel wire and heat treated for best performance. Felt strips are woven into the coils of each spring and are saturated with a good lubricant so that friction is greatly reduced, not only because of the presence of lubrication, but because the lubricant is uniformly distributed. The felt also tends to equalize the movement of the coils of both springs.

The housing H with the felt retainers B keep dust and grit away from the impulse starter. The stop G in the housing is made of steel and heat treated to prevent excessive wear.

### Operation of the Model 89 Automatic Impulse Starter

When the engine is cranked, the rotating members E and F move as one until the heavy end of one of the stop levers drops, thus causing the stop end of the lever D to engage with the stop G. The rotation of the member E is thus arrested while the member F continues to rotate with the engine, at the same time compressing the springs L1 and L2. This compression of the springs is accomplished by means of the pin N, which is riveted to the member E, and the steel balls O and P. The pin N occupies the space between the two balls P so that when the member E is arrested and the member F continues to rotate, the pin N presses against the ball P nearest to K2 and L2, this ball in turn pushes against the spring L2, the spring L2 against the ball O, the ball O against the spring L1, the spring L1 against the ball P nearest to K1 and L1, which ball rests against a stop in the spring case F.

This compression of the springs continues until the came edge of spring case F forces the stop end of the lever D out of engagement with the stop G, thus relieving the member E. The springs then impart a high rate of speed to the Magneto Rotor, which is fastened to the member E.

Two stop levers are provided to give the Impulse Starter balance and to insure easy starting by means of two sparks per revolution.

The Spring L1 is utilized to absorb any shock and to insure long life to the magneto and coupling.

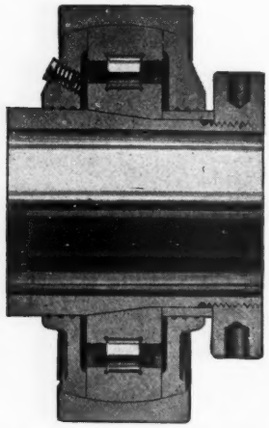
The action described continues until the engine speed reaches about 200 revolutions per minute, which speed produces a centrifugal force sufficient to hold the stop levers out of engagement, thus preventing further action of the Impulse Starter. When the engine stops, the Impulse Starter is again ready for use.

The stop G can be readily pulled out far enough to permit the stop levers to pass, thus throwing the impulse starter out of engagement and making it inoperative. This permits free rotation of the magneto for timing purposes.

# The Hoffmann Roller Bearing

IN bringing to the American market Hoffmann Roller Bearing, the Norma Company of America is not introducing a new or untried product. For years past, this bearing—as manufactured by the Hoffmann Manufacturing Co., Ltd., of Chelmsford, England has enjoyed the highest reputation both in Great Britain and on the Continent as a high-precision, heavy-duty unit combining all the speed qualities of the best ball bearing with a load capactiy far beyond that of any ball bearing of equal dimensions.

The Norma Company, in acquiring all American rights and business of the Hoffmann Mfg. Co., Ltd. extends its own line of high-precision ball bearings, and is now in a position to handle anti-friction bearing problems of greater power and load.



**The RTW Type is Self-Aligning**
Note clamping sleeve, nut, and side plates

Generally speaking, precision has not always been regarded as a valuable quality in roller bearings.

Precision, as a matter of fact, is simply a refinement of the production process primarily designed to eliminate some of the principal sources of bearing troubles, viz., looseness and vibration.

In its fundamentals of design, the Hoffmann Roller Bearing reveals no radical departure from established practice and other standard types. The outer race or ring is of plain cylindrical form with rectangular cross-section—it has a "flat-line" race-way on which the rollers run. The inner race or ring has a channel cross-section, with narrow rims either side of the "flat-line" race-way to retain the rollers endwise. The rollers are cylindrical, with a length equal to their diameter. And they are held in exact parallelism with the shaft and with one another by those rims or shoulders which are of hardened steel and allow only a very slight clearance for the rollers. The roller cage or retainer is of simple, strong, balanced construction.

It is obvious that the Hoffmann Roller Bearing as described has no end-thrust capacity. Where thrust is to be encountered, it is necessary to hold the inner race and rollers in correct relation to the outer race by means of some locating device. Where the end thrust is small, it may be taken care of by thrust buttons at either end of the shaft. Where the end thrust is large, it is carried either by auxiliary thrust bearings or by "location bearings" of standard ball type and slightly reduced outside diameter, mounted between two roller bearings.

In addition to the Standard Hoffmann Roller Bearing just described (a rigidly mounted type), the same general construction is followed. The Hoffman Self-Aligning Roller Bearing herewith shown in section is of the same general construction. Here the periphery of the outer race and its two dust-and-dirt-excluding covers, are ground to from one continuous spherical surface fitting a similarly shaped inner surface on the shell or housing. The bearing is thus free to align itself with its opposite members, the dust covers following every movement. This feature—permits these covers to be bored with a very small running clearance on the clamping sleeve, so that lubricant cannot work out or dust get into the highly finished bearing surfaces. In the type illustrated, the clamping sleeve extends clear through these dust covers so that the bearing may be mounted without exposing its working parts.

Hoffmann Roller Bearings in both standard and self-aligning types will be manufactured in this country by the Norma Company of America, in a new plant built and equipped for this purpose.

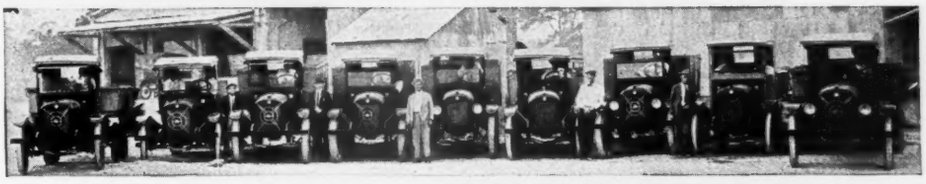


**Type R. Made in Light, Medium and Heavy Series.**

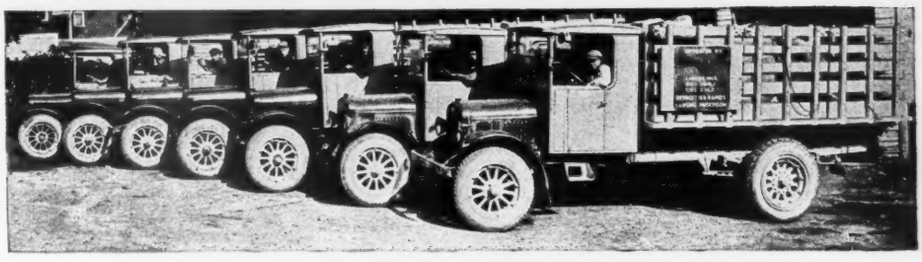
# How Ruggles Dealers Pyramid Their Profits!



*New York Dealer sells 14 Ruggles to Brooklyn Navy Yard—(picture shows only 6 of the fleet)*



*Florida Dealer sells 9 Ruggles to City of Miami*



*Michigan Dealer sells 7 Ruggles to United Trucking Co., Lansing, Mich.*

Ruggles Dealers sell entire fleets in *one transaction*. Their profits are multiplied by these fleet sales.

Nine Ruggles Trucks to the city of Miami, Florida—fourteen to the Brooklyn Navy Yard—seven to the United Trucking Company of Lansing, Michigan. These are but a few instances of big selling which have earned big profits for Ruggles Dealers.

There is no summer slump in the truck business. Ruggles Trucks are year-'round money-makers. Many passenger car dealers are solving the slump problem with a Ruggles Selling Franchise.

*If your territory is open, write us for complete information, literature and sales data.*

RUGGLES MOTOR TRUCK COMPANY, Saginaw, Michigan

*Canadian Factory: Ruggles Motor Truck Company, Ltd., London, Ontario*

# RUGGLES

*The World's Greatest Truck Value*

THIS SYMBOL IN ANY ADVERTISEMENNT MEANS: SEE "CHILTON AUTOMOBILE DIRECTORY" FOR COMPLETE BUYING INFORMATION

## Hoover Kit Box

The Hoover kit box is a striking, attractive counter display case of genuine Hoover balls for the jobber, dealer, garage. It contains genuine Hoover balls (made by the Hoover Steel Ball Co., Ann Arbor, Mich.), of such sizes as will take care of practically every repair job requiring steel balls.

The balls are coated with rust-protecting oil and packed in individual moisture-proof, wax-lined cartons, containing the



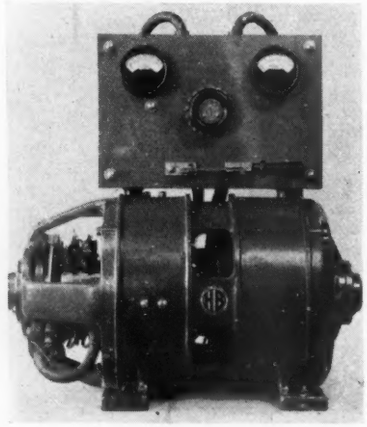

**Attractive Counter Display for Hoover Balls**

following sizes: 50 3-16 in.; 100 ⅜ in.; 20 9-16 in.; 50 ¼ in.; 20 7-16 in.; 15 ⅝ in.; 50 5-16 in.; 60 ½ in.; 11 ¾ in.

All balls are made from high carbon chrome alloy steel within close limits of accuracy and entirely free from surface or internal defects. List price, kit complete, $6.00. Replacement cartons to fit kit and keep stock complete: List prices as follows: 1 carton containing 50 3-16 in. balls, each, $0.28; 50 ¼ in. balls, each, $0.30; 50 5-16 in. balls, each, $0.34; 100 ⅜ in. balls, each, $1.10; 20 7-16 in. balls, each, $0.40; 60 ½ in. balls, each, $1.32; 20 9-16 in. balls, each, $0.76; 15 ⅝ in. balls, each, $0.70; 11 ¾ in. balls, each $0.70. Standard packing cases contain 6, 12, 14, 21.

## HB Ampere 8 Hour Constant Potential Charger

A new heavy duty battery charging outfit has been brought out by the Hobart Bros. Co., Troy, O. It is a 200-ampere 7½ volt ball bearing constant potential outfit. Weight, 575 pounds. It is unique in single unit construction and ball bearings, which the makers claim insure a big saving on electric bills over the old two unit construction. This improved method of charging batteries is especially recommended for battery shops.



**200 Ampere Seven and a Half Volt Constant Potential Charger**

The outfit, illustrated, comes complete with switchboard, having ammeter, voltmeter, switches, fuse and field rheostats, compactly mounted on the panel. The makers claim an exclusive winding that enables an absolute maintenance of constant voltage at all times under varying loads, the outfit having the constant voltage feature of the compound and the non-reversing features of the shunt winding.

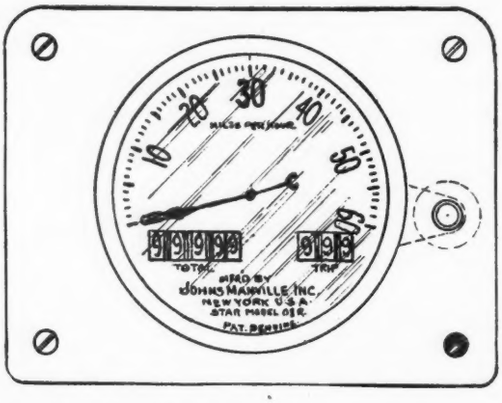
Connecting cables, bus bar and terminals are included complete with this outfit.

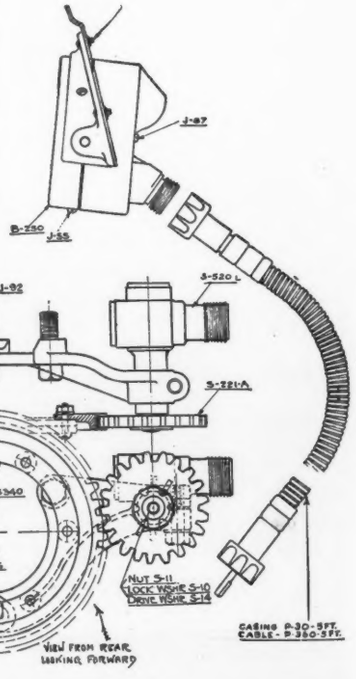
## Johns-Manville Speedometer for Star Cars

The Johns-Manville speedometer, especially designed for Star cars, is propeller-driven and in addition embodies two features which make for accuracy and simplicity. They are: Centrifugal operation of the indicating mechanism and attachment of the driving cable to the back of the head instead of the bottom.

The centrifugal operation gives accuracy and steadiness to the pointer on the dial, which records exact speed at all times. Each instrument is individually calibrated at the factory before shipment.

Attachment of the driving cable to the back of the head eliminates a sharp turn in the cable and renders the driving transmission simpler and with less friction. The instrument, which comes with a black satin finish steel plate or mounting ring to match the Star dash is easily attached and fully equipped with fittings. It has a black dial with white pointer and figures, a 100,000 mile season odometer, 100 mile trip register and a resetting device




**Views of the New Johns-Manville Speedometer for Star Model.**

that is said to be simple, nonbinding and quick acting. The speedometer is made in three models for open Star cars, for closed Star cars and for Star commercial vehicles.

Progressive Norway is planning a program of transportation expansion to cover the next 40 years. One of the problems involved in the planning is the advisability of building automobile routes instead of building branch and local lines.

## Torpedo Reflex Spark Plug

The Reflex Ignition Co., 3069 W. 106th St., Cleveland, O., recently placed on the market its new reflex torpedo spark plug, which is designed specifically for oil pumping engines.

This plug is of the closed end type, a feature which allows only a small amount of oil to enter the spark plug chamber,




**Cutaway Showing Shape of Porcelain**

thus reducing the short circuiting or carbonizing to a minimum. The revolutionary design of the core is that of the porcelain tip, which is ball shaped. This construction holds the heat at the end and in this way insures against fouling. The porcelain having this ball shaped design prevents radiation, due to the fact that the shank is smaller in diameter. At each explosion there is a force of ignited gas which is expelled out of a small hole at the bottom of the shell. This throws out all oil and carbon from the chamber.

# A TRUCK WHEEL OF ROLLED STEEL





*The Bethlehem method of making a wheel from a steel I-beam produces a wheel that is simple in construction and durable in service.*

## *Worthy of service on any truck*

THE Bethlehem Wheel is made of ***rolled*** steel. That fact underlies its possession of ***all*** the qualities a good truck wheel should have. The Bethlehem Wheel is strong and durable, yet light in weight, and resilient. Lengthy and rigorous tests have established the stamina and character of the Bethlehem Wheel—its ability to heighten the economy and broaden the usefulness of the finest trucks.

BETHLEHEM STEEL COMPANY, BETHLEHEM, PA.

SALES OFFICES:
New York
Boston
Philadelphia
Washington
Pittsburgh
Detroit
St. Louis
Baltimore
Atlanta
Cleveland
Buffalo
Chicago
San Francisco
Cincinnati

# BETHLEHEM
## ROLLED STEEL TRUCK WHEELS

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## Landry Four-Wheel Brake

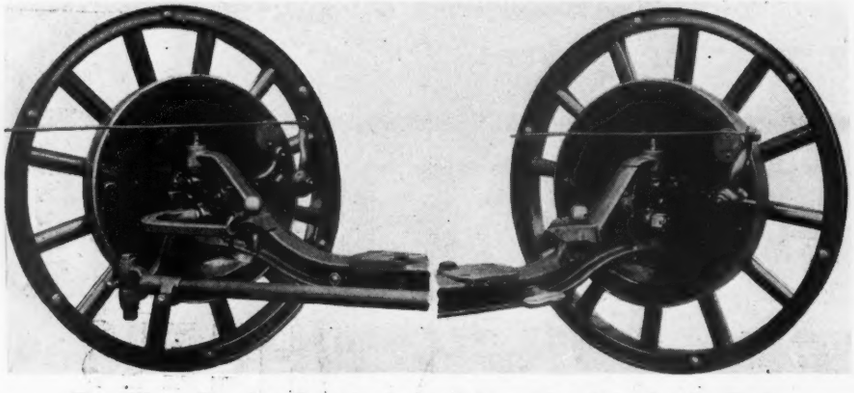
Until very recently automotive engineers have been researching, it seemed, with the exclusive idea of still further developing power features. As a result during the last ten years the rate at which automotive vehicles will accelerate has increased tremendously. Although other vehiculer considerations have not been neglected the proportionate rate of development has been, indeed, diminutive.

Brake designing is, however, coming in for a distinctive departure from its staid path of more than ten years standing, according to the reports received by the Landry Manufacturing Co., Inc., 19 Fordham Road, Boston 34, Mass. Improvement in brake construction today is noted in the rapid acceptance of the four-wheel brake principle by many of the manufacturers of Europe. It is pointed out that America, with its hugh production, will gradually take over this type of braking apparatus in view of the greater control afforded because of the added area for the distribution of pressure.

The Landry Company manufactures such equipment. It is known as the Landry Four-Wheel Brake. This system consists of standard brake drums provided with specially designed brake bands, stated to give positive, direct, frictional grip on the brake drums. The drums are attached to the inside of the front wheels. They are attachable to wheels of any type or make. Circular steel plates of the same diameter as the brake drums are stamped to fit around the axle and are welded to the axle spindle. A vertical "S" shaped lever with a fulcrum at its center and a groove in its outer face, is attached to a rocker shaft, which is installed on the frame, and connected by cable to a pulley that is attached to the brake pedal.

The front brake lever is connected with a cable which runs around the "S" lever to the rear lever, making the front and rear brakes work as one, on each side of the vehicle. The cables pass through guides which are attached to the frame at an angle so that the wheels will turn without touching the cables. Any tension in the cables caused by steering is equalized by the "S" levers turning on their fulcrums. The foot pedal applies the brake to all four wheels equally.

The construction of this brake is simple. Action is claimed to be equally as effective in backward as in forward travel. Perfect operation is guaranteed at all times regardless of any change in the relationship between the axle and the frame of the vehicle.



Two Views Showing Construction and Assembly of the Landry Brake

## Kellogg Model 722 Two-Stage Compressor

The Kellogg Model 722 Two-Stage Compressor produced by the Kellogg Mfg. Co., Rochester, N. Y., is designed for high-pressure heavy-duty garage and filling station requirements and is recommended for pressures above 150 lb.

The pump itself is of the vertical type, the same system of positive lubrication being used as in Kellogg single stage units. This eliminates rapid wear, constant attention, as well as all oil from the air line. Patented vanadium steel disk valves produce a maximum volumetric efficiency.

One of the most important features of this unit is the super intercooler, constructed of copper and entirely housed in around the flywheel, the housing forcing a continuous blast of cold air from the fan flywheel over the intercooler and cylinders.

Other exclusive Kellogg features, such as air filter base and starting retort, self-oiling and adjusting belt idler, automatic and hand unloader, and double shut-off valves permitting direct pumping as well as through the tank, are incorporated in the design. The Kellogg Model 722 is furnished as standard with ¾-hp. motor, 35-gal. tank, automatic control, etc. Also as oversize model with 1-hp. motor, 60-gal. tank complete.

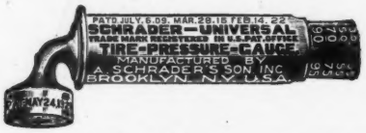



Kellogg Model 722 Two-Stage Compressor

## Angle-Foot Tire Pressure Gages

The Angle-Foot Tire Pressure Gage is especially made by A. Schrader's Son, Inc., Brooklyn, N. Y., manufacturers of the Schrader Tire Valves, for use with truck tires. It indicates air pressures from 30 lb. up to 170, and thus can be used in determining the amount of air in giant pneumatics of any size.

Although this gage was intended primarily for truck tires, its use extends to




Schrader's New Tire Presssure Gage

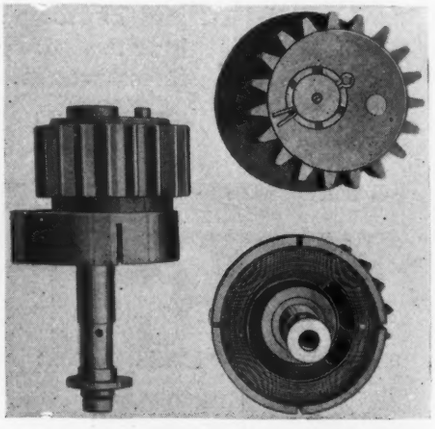
tires on wire or disk wheels of passenger cars where it is difficult to apply the straight or pencil type Schrader gage. The end of the angle-foot gage can easily be placed on the tire valve no matter what the wheel construction.

These instruments are convenient to carry in a tool kit and are simple to operate. White figures on the black background of the inner tube which is forced out by the air pressure tell instantly and accurately how much air is in the tire. All gages are nickel-plated and are packed in individual leather cases. The retail price is $1.75.

## Link-Belt Automatic Chain Tightener

The Automatic Chain Tightener is the feature of the Link-Belt front end drive assembly that today is being used in quite a number of engines in operation.

It consists of a wheel mounted on an eccentric bushing which moves to take up elongation in the chain, and which maintains a balance between a set initial pressure and the running tension of the chain. The entire assembly produces a silent-operating drive that is positive yet semi-elastic. It allows for the expansion and contraction from temperature, and a flexibility of design, and therefore the building of a more accessibly-designed engine. It is made by the Link-Belt Co., Indianapolis, Ind.



This Chain Tightener Employs the Eccentric Principle




# Easy Steering ~ and Safety in Motor Bus Service

Transportation of human passengers involves a tremendous responsibility. The Motor Bus manufacturer cannot afford to take chances on any unit—least of all on the steering gear. For complete satisfaction the steering equipment must provide the easiest kind of handling for the driver and the highest degree of safety for the passengers.

In this new Ross Cam and Lever design, the long lever arm inside the gear develops such enormous power that steering is surprisingly easy under all conditions. In straight-away driving, it is so irreversible that practically all road shock is eliminated. In turning, the variable pitch of the cam produces a unique accelerated action which facilitates quick and easy control.

It combines small size and simple construction with a maximum of power, reliability, safety and service.

*Every manufacturer should investigate the superior steering service which this new gear offers. Full information on request.*

ROSS GEAR & TOOL COMPANY
760 Heath St., Lafayette, Indiana, U.S.A.

Steering Gears
*for*
Passenger Cars
Motor Buses
Motor Trucks
Fire Trucks
*and*
Tractors

# ROSS STEERING GEARS

POWER ~ SAFETY ~ RELIABILITY ~ and EASY STEERING

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# SERVICE AND REPAIR DEPARTMENTS



# Flat Rate and Piecework Principal Subjects Discussed at Service Convention

## Greater Interest Manifested by Industry in This Subject Indicated by Large Attendance at Detroit Meeting. Better Shop Equipment the Keynote of Good Service

By C. P. SHATTUCK

THAT more appreciation is being given to service by dealers, was the concensus of opinion of the factory service managers at the conclusion of the two days' sessions at Detroit, May 15 and 16. Considerable progress in service has been made since the first convention was called by the N. A. C. C. a few years ago. The car and truck manufacturer has been convinced that that which comes after sales is more important than that which precedes selling. The dealer has progressed because he has realized that service is not a phrase but an actuality. And the owner comes into the triangle because the factory and dealer have been educating him on service and the owner now demands it. Service cannot be side-tracked or stopped.

The various sessions revealed the progress made in developing better service, particularly the discussions on the flat rate, formulating time schedules, piece work and mechanics' compensation.

That some form of flat rate is being utilized and that the "cost in advance" plan is sweeping the country was indicated by the remarks of the various service managers. However, there still appears to be some difference of opinion as to whether it is best to include labor and material or to separate these items in the charge to the owner. As usual reasons pro and con were advanced for both methods. But no one disagreed on the fact that advising the owner what it will cost and when the job will be ready was not the best method to date. It was very apparent that the factories are sold on the flat-rate system for here was no opposition other than the representative of a truck manufacturer who still holds, and rightly, that it is not essential to the service station if the customer has 100 per cent confidence in it.

### Factories Testing Repair Shop Equipment

It was shown that many factories were gathering flat-rate data with a view toward classifying operations and presenting a schedule to their various dealers. A number of factories are also testing tools and shop equipment in connection with the operations. A few are supplying such equipment direct to their dealers but the majority are satisfied with recommending it.

While on the subject of shop equipment, the writer wishes to advance the thought that this important subject is not given the consideration it deserves at these conventions. The setting up of the results of studies on operations is most commendable but in the majority of cases, be it factory or large dealers, the labor factor is based upon the results obtained with equipment that permits of fast work. Supplying the small dealer with a set of time operations, based on the above conditions, is setting up a mark to shoot at, it is true, but if the small dealer **attempts to equal or approach the record without the right equipment** he will fail.

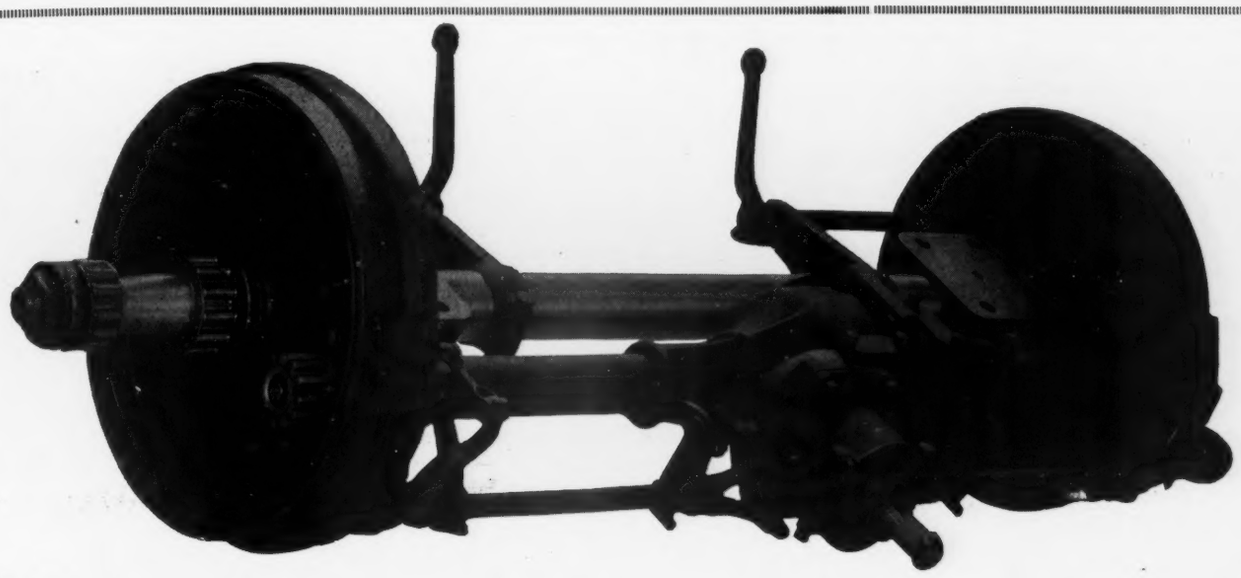
### Are Dealers Leading the Way?

The flate rate would meet with less opposition among the small dealers, generally speaking, if in addition to the "times" set forth for each operation there be an explanatory note stating that such and such tools or equipment was used. In other words, if it is desired to reduce the labor item why not tie up the equipment that makes for cheaper service with the flat-rate propaganda?

In the discussions on flat rate it appeared that the factories were more or less being guided by the experiences of their dealers, i. e., in the operations and times. These "times" are checked by factory service departments to arrive at a reasonable average. It also developed that in the matter of the flat rate the dealers were making greater progress than the factories. The factories are, however, striving to bring about standardized practices in service and there is no reason why eventually the factory cannot supply the dealer with standardized service.

That popular subject with the factory men, i. e., pirate parts, was introduced and progress can be recorded. It is very evident that the educational programs directed at the dealer have been somewhat beneficial. F. A. Bonham summed up the pirate part situation when he stated, "that the car and truck manufacturer can control the situation by selling the owner through the dealer. Eighty-five per cent of the owners know nothing about mechanics and depend upon their dealers. Therefore, if the owner can obtain service, and is educated to the advantages of the genuine part, the problem will solve itself." Mr. Bonham explained that his company, Durant, was conducting a campaign to sell the owner and that the advertising department was co-operating.

The first day's session was opened by B. G. Koether, in charge of Sales, Service and Advertising, Advisory Staff, General Motors Corp. He painted a broad picture of the industry and brought home to the service men the need of a more general and broadminded view on the subject of service and its relation to the car, the



AUTHORIZED PARTS
Russel
MASTER OF ROAD AND LOAD
AXLES

# Russel Axles Should be Under Your Trucks

***For Efficiency.*** The same high mechanical efficiency under any condition of speed, load and road—because only gears of rolling contact are used.

***For Strength.*** The chrome nickel load axle carries all the load; and it is shaped so the sections are proportioned to the strains. The special bevels, too, give extra strength at a point that is often troublesome.

***For Service.*** Russel nation-wide service gives dealers an adequate stock of parts nearby to draw on.

Let us send you full data on Russel Axles adapted to your requirements.

## Russel Motor Axle Company

**Division of McCord Mfg. Co.**

**DETROIT MICHIGAN**

## Coast to Coast Service

**Supplementing the truck makers' facilities, Russel parts stocks are maintained at the following points:**

Motive Parts Corp., 796 Tenth Ave., New York, N. Y.
W. B. Bearing Co., 452 N. Broad St., Newark, N. J.
Swain-Hickman Co., 2116 Market St., Phila., Pa.
Swain-Hickman Co., Harrisburg, Pa.
Motive Parts Co. of Pa., 237 N. Sheridan Ave., Pittsburgh, Pa.
E. A. Jenkins, Columbia, S. C.
Sanders Truck Co., 12th and McGavock Sts., Nashville, Tennessee
Motive Parts Co. of America, 1907 E. 13th St., Cleveland, Ohio
Motive Parts Co. of America, 116 E. Spring St., Columbus, Ohio
Harry P. Anderson Co., 5948 Second Blvd., Detroit, Michigan
T. H. Baker Truck Service & Storage, 906 Chippewa St., Flint, Mich.
Northern Automotive Supply Co., 5th and Saginaw Sts., Bay City, Mich.
Automotive Supply Co. 219 Tuscola St., Saginaw, Michigan
Automotive Parts & Service Co., 317 Kalamazoo St., Lansing, Mich.
Wilbur E. Smith, 737 Bond Ave., Grand Rapids, Michigan
Motive Parts Co. of America, 506 N. Delaware St., Indianapolis, Ind.
Motive Parts Co. of America, 2311-15 Indiana Ave., Chicago, Ill.
Motive Parts Co. of America, 1204 W. Grand Ave., Des Moines, Iowa
Buda Engine Service Co., 3923 Washington Ave., St. Louis, Mo.
Auto Parts Supply Co., 1518 Grand Ave., Kansas City, Mo.
Patriot Truck Co., 7 W. Main St., Oklahoma City, Oklahoma
Gaines Motor Sales Co., Wichita Falls, Texas
Buda Engine Parts Co., 1055 Broadway, Denver, Colo.
Lambert Garage Sales Co., 357 Van Ness Ave., San Francisco, Cal.
Lambert Garage Sales Co., 1416 S. Los Angeles St., Los Angeles, Cal.
Bearing Supply Co., 223 D St., Marysville, Cal.
Coast Motor Parts Co., 1265 Fourth St., San Diego, California
Oregon Parts Company, Sixth and Flanders, Portland, Oregon
Hayes-Anderson Co., Vancouver, B. C.
Motor Service Corp., Monte 483, Havana, Cuba

Russel
MASTER OF ROAD AND LOAD
TRUCK AXLES

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owner and the factory. His talk teemed with interesting and instructive features. The report of the service committee, presented by Secretary H. R. Cobleigh, was followed by a report on service association. It was evident that the local service association movement is not flourishing as it should be when the value of these organizations is considered. It appears that the dealer is not giving either moral or actual support and that there is need of some organization to sell the dealer. That the local service association can accomplish much, help the dealer and the factory, was proven by Fred Smith of the Brooklyn association who reviewed the high spots in the accomplishments of his organization. Secretary Cobleigh urged greater co-operation by the factory men in organizing local associations but the question arises who will really sell the dealers?

"How to Overcome Paint Troubles," was the subject of an address by L. V. Pulsifer, vice-president, Valentine Co. The various paint problems were discussed and explained and the speaker answered numerous questions at the conclusion of his talk.

The Advertising Service Session was opened by J. H. Newmark, manager of sales promotion, Durant Motors, Inc., who pointed out that service and advertising ought to be co-ordinated, and that service was making real progress due to improved tools and equipment plus the flat rate. A number of concrete examples were cited by the speaker to sustain his contentions.

In the discussion of "advertising and its relation to service," it developed that there was a difference of opinion as to when service should be advertised. Some held that until the house of service was placed in first-class order that it would be futile to advertise that which did not exist. Others held that service was advanced sufficiently. G. W. Brogan, advertising manager, Black & Decker Mfg. Co., made a few terse remarks on the "passing of the buck" in service and stated the service that satisfies will come as the public will force it.

Among the papers of interest was that by Richard Harfst, general manager of the Cadillac Motor Car Co., Detroit branch, on "individual service." The plan in brief is to encourage the owners to select one of several service men when work was needed and to continue with that man. The advantages claimed for the plan was that it eliminated complaints because of work not properly done as each service man was held responsible for his clientele. The plan was very successful, said the speaker, and he quoted from replies of a questionnaire which showed but few criticisms.

T. W. Holloway, assistant technical manager, Cadillac Motor Car Co., presented a paper on the "Education of Dealers' Mechanics," and D. E. Purdy, service department, Hupp Motor Car Corp., presented a paper on "Piecework or Flat-Rate Compensation." Extracts of the latter paper appear elsewhere in this issue.

Radio as a means of broadcasting instructive and educational matters to the owner, was discussed. It developed that some dealers were using the radio. It was the concensus of opinion that seasonal talks could be given by those in the trade and that much good would result from a service standpoint.

A. B. Cumner called attention to an analysis of 100,000 repair jobs from the branches of the Autocar Co., which showed that 75 per cent of these were due to lack of intelligent lubrication and loose nuts and bolts. Mr. Cumner was appointed chairman of a committee which will draft a resolution of 100 words on the subject. The message will be distributed to repair shops. It is believed that lower maintenance costs will be obtained by the campaign. A vote of thanks was given to the General Motors Corp. for the use of the hall in which the convention was held, and to the various speakers.

The attendance was large which speaks well for the convention when it is considered the factories are unusually busy with production. Suggestions were made as to the fall meeting place of the next convention and the committee will, as usual, designate the place.

# Piecework or Flat-Rate Compensation for Mechanics*

By D. E. PURDY, Service Department, Hupp Motor Car Company

THE flat-rate method of making charges to customers for work done on their cars has been adopted in many service stations throughout the country. Many are using a flat rate as far as charging the customers are concerned. Some shops are paying their mechanics on a regular hourly schedule and some are paying them on a piecework basis. The subject assigned to me covers the piecework paln.

As I see it, the entire flat-rate and piecework system is a triangle, one side representing the customer, one the service station, and one the mechanic. In order for it to result in satisfaction all around, it is necessary that there be unity and co-operation on the part of all three. Inasmuch as my subject is limited to the mechanic alone, I will not devote any time to the other sides of the triangle.

### Advantages of Piecework

Some of the advantages of piecework for the mechanic may be summarized as follows: His hourly rate while working piecework is increased. His total monthly earnings are increased. It has a tendency to remove the mechanics' dislike for certain jobs. It creates in him an inventive genius and he designs tools to help him accomplish the work in shorter time. It makes the mechanic more proficient because he knows in advance the standard time required to do the job.

### Hourly Rates

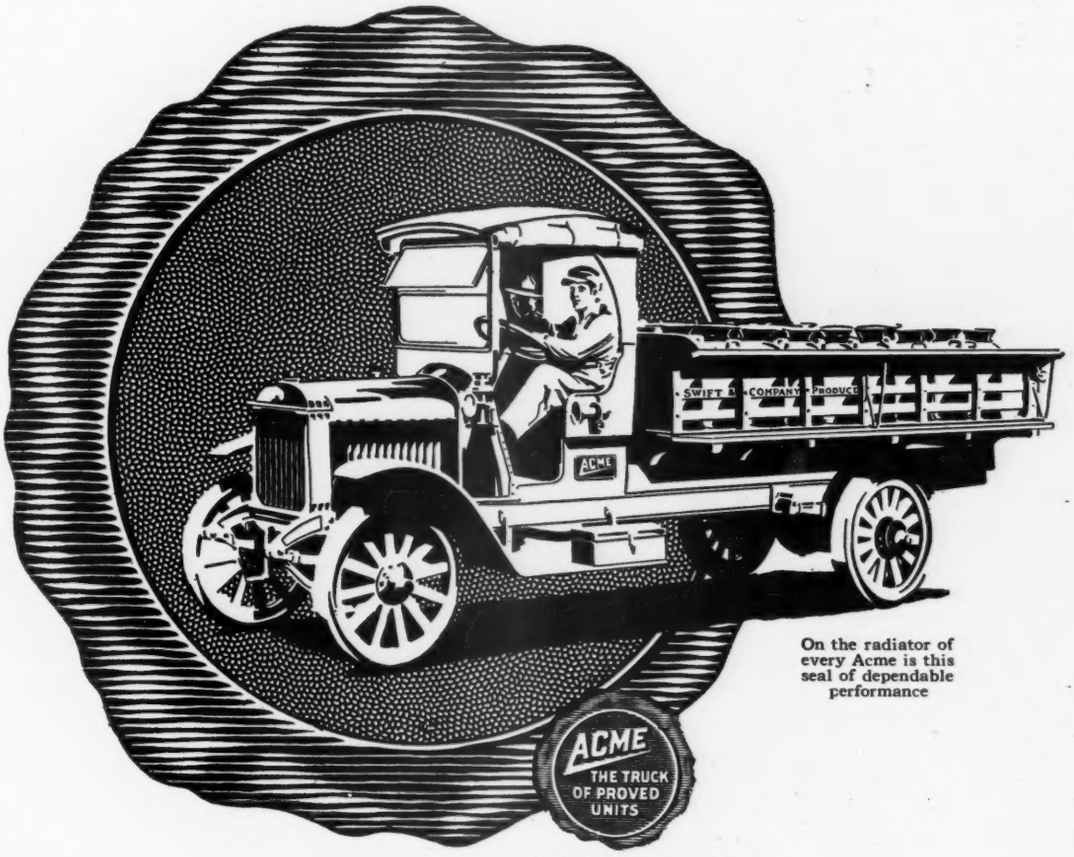
The hourly rates of mechanics vary in different localities and in different shops, also as to their ability and experience. Not all of the mechanics in a shop receive the same hourly rate, but all receive the same amount when doing the same specified operation. If when working on straight time, it is necessary to work overtime, they receive the regular rate of pay. If, however, they work overtime doing piecework, they receive the standard rate for the job. Sometimes there is not enough work in the shop to keep all of the men busy, and it is necessary that some of them wait for a job to come in. This is termed waiting time and the rate of pay varies according to different shop policies, some shops paying the regular standard hourly rate and other shops paying but a percentage, making the men stand some of the burden. When a mechanic is working straight time he is paid his regular hourly rate as carried in the payroll.

### Computing Piecework Rates

The time set as a basis for a contract price, and the time allowed to perform the work in the shop is the result of experience and observation of past performance, and keeping a record of the time consumed in performing the same operation by different mechanics. This time will naturally fluctuate in direct proportion to the proficiency of the workman, and the shop tools with which he is to work.

To arrive at a price on an operation on which no contract has been established it is necessary that a "time study" be made of several of the jobs performed by different mechanics, so that an average time can be determined as a basis. Supposing that a specific operation requires five hours of the mechanic's time to perform, the mechanic is paid the regular shop rate for five hours' labor, and the contract price to the customer is for five hours at the prevailing customary charge per hour. If, however, the mechanic performs the operation in three hours, or takes seven hours, he receives pay on a five-hour basis, the customer's price remaining the same. Prices quoted customers for any specific job are never quoted according to hours but for the

*Extracts of paper presented before the Service Managers' Convention of the National Automobile Chamber of Commerce, Detroit, May 15, 1923.




On the radiator of every Acme is this seal of dependable performance

Trade-Mark registered U. S. and other countries

## We Want Responsible Business Men to Know About

# *The* Acme Dealer Franchise

Ten models of Acme Trucks, from a speed truck to one of 12,500 pound capacity, are given you to sell under the most liberal arrangement ever planned by a motor truck manufacturer.

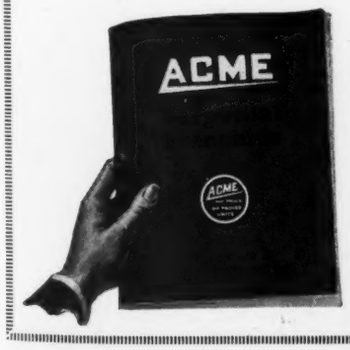
Established dealers or other responsible business men alone are eligible for this Acme Exclusive Selling Franchise, and those we invite to write us for further information.

Some exceptionally fruitful territories are still open—and if yours happens to be one of those, you're in line for a mighty prosperous business.

The Acme Franchise gives you full co-operation in the finding of prospects, closing, financing, and after-sale service that means satisfied customers and consequent increase of business.

## ACME MOTOR TRUCK COMPANY

**532 Mitchell Street, Cadillac, Michigan**




***Write today for details of dealer's franchise plan. Every day sees the disposal of more and more franchises—every day of delay means that you might lose your territory***

# ACME



**Acme Trucks Move Entire Town**

Over 100 houses, 25 to 40 tons each, were moved 12 miles, from Jennings, Michigan, to Cadillac, by an Acme Truck and Trailer, Acme designed and built

THIS SYMBOL IN ANY ADVERTISEMENT MEANS: SEE "CHILTON AUTOMOBILE DIRECTORY" FOR COMPLETE BUYING INFORMATION

complete job, and the customer has no knowledge of the actual time consumed in performing the job. If experience shows, due to efficient methods in the shop, that work can be performed in much less time than already contracted, it is to the advantage of the house to reduce the price of the complete job to the customer and also to adjust the time allowed for the mechanic to do the work, always bearing in mind that it is unwise to cut the mechanic's time **so low that he cannot earn more money doing contract work than by the established day rate,** thereby taking away from him all incentive to do good work in the proper time, and make more than the ordinary day rate.

### Mechanic Advised of Rates

After the rates have been established they can be typed on a sheet and placed on a bulletin board in the shop showing the amount paid the mechanic for each different operation. Upon his being assigned to a certain operation, he can by referring to the bulletin board tell exactly how much money he will receive, regardless of the length of time it takes him to perform the work. This information enables him to speed up his work so that he can complete the job in a short time and thereby make a profit. On some certain jobs, such as valve grinding, where careless work on the part of the mechanic might be covered up and pass inspection, **it is a good policy to establish a minimum time** in which to perform the work. This prevents the mechanic from rushing through, as he knows that he must put a certain amount of time on the job in order to make it satisfactory, and one that will pass inspection and not come back to be done over.

### When Piecework Does Not Apply

In the event of some condition arising over which the mechanic has no control whereby a job cannot be performed in the allotted time, it is the duty of the foreman or superintendent to make a thorough investigation and if in his judgment he deems it advisable the mechanic can be transferred to straight time for that particular job. For example, an owner's car is brought in to have the valves ground, and if in assembling, the mechanic should strip one of the studs when tightening down a cylinder head, using the proper tool, he should not be held responsible, and in this event his day rate time should be allowed him in making the necessary repairs.

Each large contract operation is divided into groups, such as tear down, make repairs, assemble, and the mechanic doing the work reports to the timekeeper at the end of each of these operations, therefore, exact elapsed time is shown, and these are accumulated for statistical purposes and a time study of the operation. This method permits of the changing of a man on a job at the end of any of the segregated operations without interfering in any way with the keeping of exact record and the payroll. In the event of his being taken from a job before it is completed such as being called to do some special work or quitting for the night, he is rung off from that particular job and the job is held open until he rings back on the job and completes it. He is then credited with the amount allowed for the particular work. Each morning he is given a copy of his record so he knows exactly what operation he performed and how much money he earned on straight time and on piecework the previous day.

### Increase Rate While Working

Mechanics invariably earn a greater rate per hour while on piecework, because they naturally perform the work in a shorter length of time. For instance, supposing that a given job requires four hours to perform and the mechanic was receiving 60 cents per hour. He would receive $2.40 for the job on straight time. Now, if a piecework rate of $2.40 was allowed for the same work, the mechanic would invariably do the work in shorter time and if he did perform it in three hours, he would receive the $2.40, thereby increasing his rate while working to 80 cents an hour. Experience and observation prove that mechanics will beat their straight time from 25 to 30 per cent when doing piecework.

### Limitations of Piecework

The increased amount the mechanics will earn depends to a large extent upon the number of operations on which piecework has been set. The greater the number of piecework operations, the greater the opportunity for mechanics to increase their earnings. In some shops as much as 50 to 60 per cent of all operations have a piecework rate, and if the number of operations could be increased to say 75 per cent, the mechanic's earning would increase proportionately.

## Conference Committee Presents Gasoline Tax Recommendation

The Motor Vehicle Conference Committee has submitted to the special committee of the National Automobile Chamber of Commerce to investigate and report upon the question of gasoline taxation, a memorandum as a basis or starting point for the solution of the problem. The special committee consists of H. H. Rice, Roy D. Chapin, A. R. Erskine, C. C. Hanch, W. E. Metzger and W. T. White. The memorandum is as follows:

**Object of Taxation**—Taxes are levied to raise money to enable expenditures for those objects which are furnished or services which are performed by governmental bodies.

**Kinds of Taxes**—Taxes are **general** if they fall alike upon all persons, businesses, localities or classes of property. **Special** if they single out certain persons, businesses, localities or classes of property.

**Theory Underlying Special Taxes**—Special taxes are explained and justified by the theory that the objects furnished or services performed by the money derived from such special taxes are of particular or peculiar importance or necessity to the persons or things or classes of persons or things which pay them.

**Most Motor Vehicle Taxes Are Special Taxes**—This is the basis for most of the annual registration fees, gasoline taxes and other forms of taxes which are annually levied by our states on the motor vehicle and its owners and operators.

**Course if Theory is Accepted**—This theory must be accepted or rejected by the committee. If accepted the task is to determine just what are the benefits provided or services rendered by government which may logically and justly be charged against the motor vehicle. After that the type of tax to be used to pay the benefits and services and the apportionment of the tax among motor vehicles of the various sizes, classes, etc., must be fixed.

**Course if Theory is Rejected**—If the theory of special taxation for the motor vehicle is rejected then the task is to secure Federal, State and local laws wiping out of existence all such taxes and leaving only a charge necessary to pay for the administration of the motor vehicle departments.

**Difficult to Reverse Position**—During the past twenty-five years, however, motor vehicle manufacturers, dealers and users have not opposed, but have even encouraged special taxes for highway maintenance, and in many cases, even for reconstruction and new construction of improved highways. It is very doubtful, therefore, if at this late date they can reverse themselves on this subject.

**Sound Basis for Special Taxation**—Assuming therefore that the theory of special taxation for motor vehicles is sound it is apparent that motor vehicle manufacturers, dealers and users must determine what are the particular expenditures of government that these special taxes shall defray.

Following is the platform of the Motor Vehicle Conference Committee on the subject. It is an expansion of a resolution adopted last January by the directors of the National Automobile Chamber of Commerce.

1. The state should be the sole taxing agency—federal, county and municipal governments to be excluded from the field.
2. The total amount of taxation should be limited to the sum of money necessary for:
   a. Administration of State Motor Vehicle Department.
   b. Maintenance of improved highways of the state.
3. The term "maintenance" and the items which it shall include should be sharply defined and strictly limited in application.
4. No money derived from special taxation of the motor vehicle should be spent for maintenance of highways unless such highways are located where the highway transportation needs of the state require and unless such highways are built of materials and in a manner to meet these needs.
5. The total amount of justified taxes should be raised in a manner which most equitably distributes the cost among the various classes of vehicles and the units within each class.
6. All money raised by such special taxes should be placed in the State Motor Vehicle Maintenance Fund and spent by the state or under state supervision on the improved highways in the order of their importance and in accordance with their maintenance needs.

**Tax on Horsepower and Gross Weight Advocated**—The Motor Vehicle Conference Committee has been advocating a tax based on both horsepower and gross weight as the best means for raising the total of such taxes required in any one year in any one state to defray the logical and justifiable expenditure that should be met by the motor vehicle.

**Gasoline Tax Movement**—Many feel, however, that a single tax on gasoline or else a tax on gasoline for highway maintenance with a nominal flat-rate charge to cover the administration of the State Motor Vehicle Department would prove a far better and more equitable method of taxing the motor vehicle.

**Issues Which Committee Must Dispose of**—In order of time as well as of importance, therefore, the committee must, in considering the gasoline tax problem, dispose of the following issues

1. Shall it be admitted that government furnishes services and benefits which are of particular necessity and advantage to the motor vehicle?
2. What are these services and benefits?
3. Are they so peculiarly or even exclusively necessary or beneficial to the motor vehicle that they justify special levies upon the motor vehicle?
4. What type of tax or taxes shall be used to meet these levies?
5. How shall this tax or these taxes be scientifically and equitably apportioned among the various kinds of vehicles?

# SIGNAL

For ten years we have continuously manufactured a commercial vehicle which needs no apology and no introduction to motor truck users, and now take pleasure in announcing a few refinements which will reduce the selling resistance, making competition even more easy to meet.

Our radiator is of special Signal design and suspension, with extra large cooling area and manufactured by the Long Manufacturing Company for our chassis.

We install the very latest type Continental engines in all models. Each engine is supported in front by a cross arm, the ends of which are cushioned by coil springs above and below side member brackets. This mounting is patented by us. In the rear the engine rests on a ball and socket which, in conjunction with our front motor arm, permits frame distortion without injury to the motor.

The clutch, control and transmission are the latest type manufactured by Brown-Lipe Gear Company. The transmission has an aperture for power take-off.

The axles, front and rear, are Timken.

The installation of these units is made according to Signal engineering, which makes it possible to deliver nearly every ounce of power produced by the engine to the worm gear of the rear axle, thus reducing cost of operation and upkeep to a minimum.

Every moving part on the chassis is either supplied with an oil-less bushing or pressure lubrication, doing away with old-style grease or oil cup which the driver so often neglected.

These are only a few of the improvements we have made during the last year but they all benefit the user by reducing transportation cost, and what is good for the user certainly favors the dealer and manufacturer.

If you think you can merchandise the highest grade commercial vehicle manufactured, we suggest you write or wire us, as our franchise has many features of interest to a real business man who is building for the future.

**SIGNAL TRUCK CORPORATION**

**DETROIT, MICHIGAN**

SIGNAL

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# Service Station and Repair Shop Appliances

## Ammco Honing Tool Employs New Principle

The Ammco Centrimatic Hone now being marketed by the Automotive Maintenance Machinery Co., 549 W. Washington Blvd., Chicago, is distinctly new in design. Several basic departures from conventional construction are noted. Provision for automatic self-adjustment to any size of cylinder represents one of its features of efficiency. And "following" or affectation from cylinder taper or out-of-round is prevented by its self-aligning and self-centering features. The action of centrifugal force is exclusively employed to expand the hone to proper size and to force the stones into contact with the cylinder wall. This method insures equal pressure on all stones.

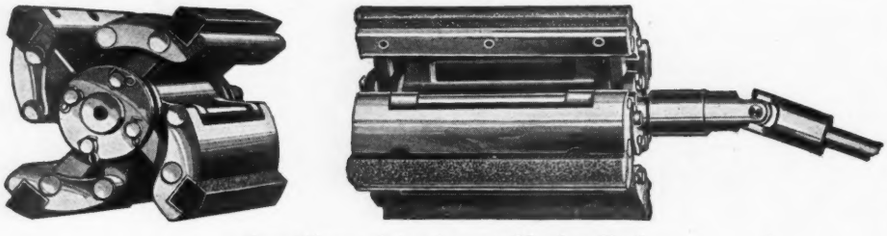
The abrasive stones used simultaneously removes the metal without loading and polishes the surface; liquids or lapping compounds are not required. The speed of rotation is not sufficient to heat or warp the cylinders during the honing process.

The mounting provides a support for the stones over their entire length. Each stone is held by a steel channel and hollow set screws. This construction makes stone replacement a quick and simple matter.

No adjustments are required to fit the hone cylinders from 2 13/16-in. to 5-in. diameter. Since centrifugal action automatically regulates cutting pressure, internal adjustments and calipering of hone diameter are unnecessary. Only the internal diameter of the cylinder is watched during the honing operation. For cylinders from 4 in. to 5 in. in diameter, a set of extension blocks are provided. The use of these does not call for any adjustment of the hone other than the mounting of the blocks and stones in proper position in the hone.

Either a portable electric drill, standard drill press or multi-spindle honing machine can be used to operate this hone.

Each mounting is hinged at both ends to the rigid arms of the central spider, which hold the wings parallel to each other and to the axis of the tool. The self-adjusting and self-centering features of the hone are the result of the interconnection of the wings, accomplished with links attached to the wings at one end, and to a pair of disks at the other. This inter-connection co-ordinates the action of the four wings so that the slightest travel of one wing produces an equal radial travel on the part of the other three wings. The linkage automatically keeps the stones equi-distant from the center of the hone and insures a true circular path for the cutting surfaces of the stones.



**Two Views of the Ammco Honing Tool**

**Note the manner in which the blades are mounted. Replacement is quick and simple**

## Imperial Portable Shop Bench

The Imperial Portable Shop Bench being marketed by the Imperial Brass Mfg. Co., 1200 W. Harrison St., Chicago, Ill. is ideally suited for garages, repair shops and battery service stations. It saves time, labor and loss of car parts. The shelves are made of thick gage metal and can withstand heavy weights.



**Portable Bench for Garages**

The tool drawer is a convenience. Dimensions: Height, overall, 36 in.; width overall 21 in.; length overall 36 in.; drawer, 14 x 18 in., 4 in., deep; weight, approximately 80 lb. Net prices: No. 126 H, portable shop bench (without vise), $12; No. 127H, portable shop bench (with vise), $15.

## Export Offices for McQuay-Norris

The McQuay-Norris Mfg. Co., with factories at St. Louis, Connersville and Indianapolis, have established an Export Department in New York City to take care of foreign trade.

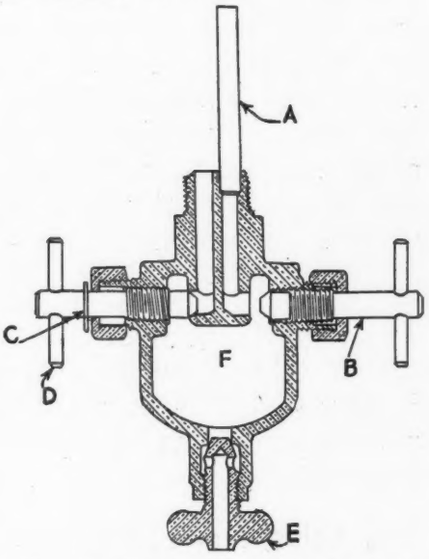
This department will be under the direction of W. D. Blood with a corps of territorial salesmen covering all foreign countries. The export offices will be located at 30 Water St., New York City.

## Reserve Gas Supply in Atterburys

Among the new features of the Atterbury line, contributing to driver efficiency, is a provision for a reserve gasoline supply. The troubles attending a dry tank are prevented. This special provision made in every Atterbury for a 2½ gal. reserve supply of gasoline is more than sufficient to carry a truck to a filling station.

This is done very simply by means of a 2-in. stand pipe projecting up into the gasoline tank from a special combination sediment bowl and valve connection. Normally the gasoline is fed to the main feed line through the stand pipe, but if the fuel is allowed to get down to this level another needle valve makes the balance of the supply available for emergency use.

Incorporated in this device is a sediment bowl and screen for the collection of dirt and water. This can be drawn off by a third needle valve located in the bottom of the bowl. Atterbury trucks are made by the Atterbury Motor Car Co., Buffalo, N. Y.




**New Gasoline Control Device Used in Atterbury Trucks**

**The parts indicated are as follows: A, Stand Pipe; B, Normal Feed Valve; C, Reserve Tag; D, Reserve Valve; E, Drain; F, Sediment Bowl.**

## New Micarta for Gears

The Westinghouse Electric & Manufacturing Co. has developed a new grade of Micarta, known as No. 238 Micarta, for use in the manufacture of gears and pinions of small pitch and face width, such as are used in phonographs and magnetos. The new Micarta is made from a good grade of fine fabric and because of this feature and its densely homogeneous structure, can be machined very accurately. For this reason it is very adaptable for fine pitch applications.

## New Buffalo Reboring Machine

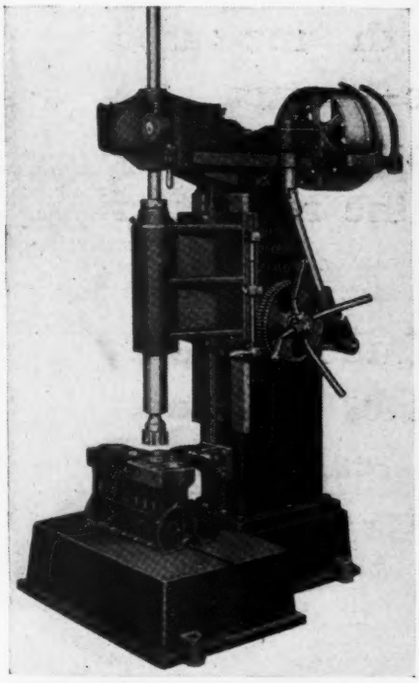
The accompanying illustration presents a fair idea as to the general size and construction of the Buffalo Reboring Machine made by the Buffalo Forge Co., Buffalo, N. Y. This machine has a 16-in. feed and its driving pulleys are run at 300 r. p. m. while the speed is reduced to 26 r. p. m.

The head and spindle on this machine retain their relative position at all times. The head moves up and down with the spindle upon guides on the frame. This is claimed to insure their permanent alignment.

The boring spindle is driven by a bronze wheel and hardened steel worm which is located directly on the main drive-shaft. A belt shifter conveniently located at the front of the machine serves as a clutch for this shaft, and another worm engaging a large gear which operates a rack and pinion.

An adjustable trip disengages the feed when the tool reaches the bottom of the cylinder.

An entire Ford block can be rebored in half hour, and other engines in the same proportionate time. A feature of this machine is the ease with which the cylinder block is held in position. The



**Complete View of the New Buffalo Reboring Machine**

head and spindle are lowered by means of hand-operated spokes and the block is shifted until the reboring tool engages the cylinder centrally. A lever operated clamp grips the top of the block securely. This is all that is required as the reamer may be changed to suit the job in a few seconds. Any make of passenger or truck engine can be accommodated.

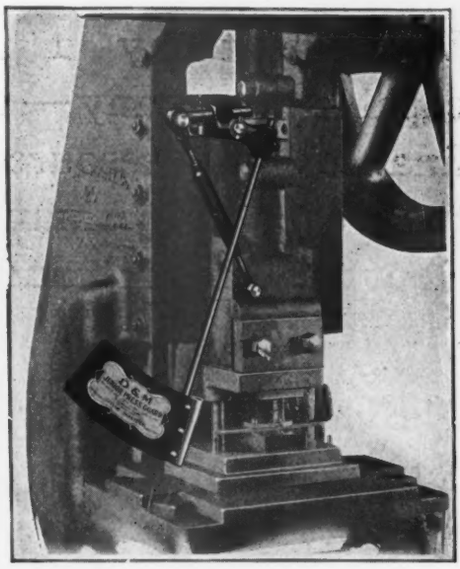
Bronze bushings are used throughout; the driving worms are enclosed and run in oil. Operation has been simplified to the extent that any machinist can run it easily. It weighs 3,000 lb.

## D & M Junior Punch Press Guard

The D & M Junior Guard, offered by Taylor-Shantz Co., 478 St. Paul St., Rochester, N. Y., is designed to overcome the unusual objections to Punch Press Guards, viz.: that they are expensive, cumbersome, complicated, cut down production, etc.

The D & M Junior Guard is built on an elementary mechanical principle, new, however, to press guards, requiring only nine parts, all of which are constructed with a high factor of safety. The guard arm is automatically driven by the ram, and sweeps across the bolster of the press, passing the dies before they close.

A rubber cushion prevents any possibility of injury to the operator's hand by the guard. All necessary adjustments are provided for, such as changes in die space, distance of travel of the guard arm, and speed at which the guard arm travels. Such adjustments can be made in an instant. The installation is accomplished by drilling and tapping only two holes and no changes are required in the press to which the Guard is to be attached.

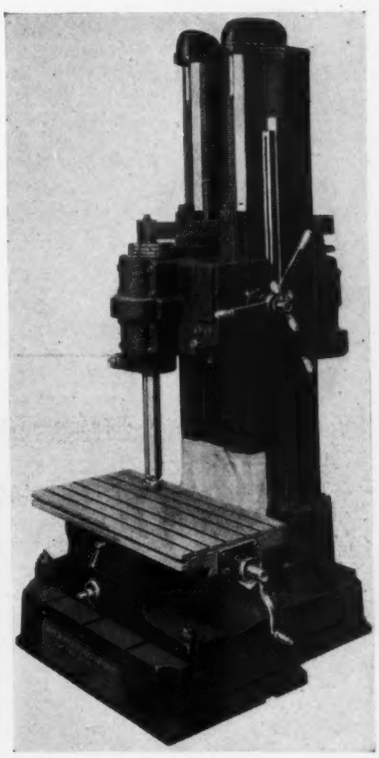


**Showing the D & M Junior Punch Press Guard Mounted**

## Garrett Millerette Converter

The Garrett Millerette or wide range attachment for lathes, planers, shapers or drill presses offered by the Production Machine Tool Co., 629 East Pearl St., Cincinnati, O., is built in three sizes for lathes from 12 in. to 24 in. swing.

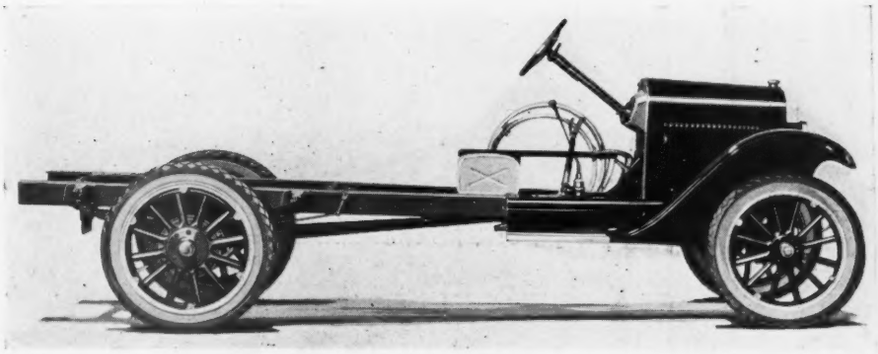
The Millerette converts the lathe into a milling machine with dividing head on which a large range of milling can be done, such as cutting gears both spur



**The Millerette on the Drill Press Spaces the Holes and Holds the Work**

and bevel, surface milling, angle cutting spline and keywaying.

On the drill press the Millerette spaces the holes to be drilled and holds the work. On planers and shapers it's used as a dividing head.



**Side View of the Chevrolet Utility Chassis Complete**

**This job is designed to meet the requirements of quick delivery with capacity loads in all lines of business. The construction follows regular Chevrolet practice**

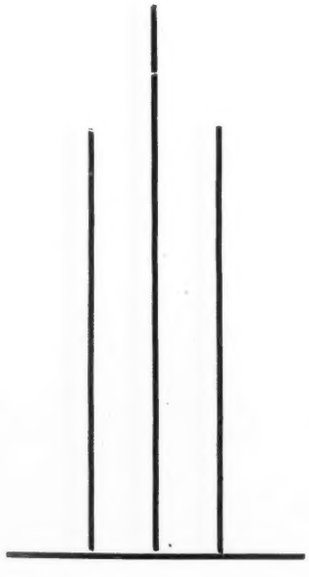
# REPUBLIC

## Quality-Price

The Republic truck now incorporates all those refinements and advantages gained from ten years' experience under all types of hauling conditions.

We are today a stronger, more capable company — with increased finances and resources — better able than ever to permanently maintain Republic prestige and the respect of the world.

The Republic dealer franchise is a better franchise for the ambitious business man—it offers real business merchandising possibility—the oppor-



**Republic Motor Truck**

# REPUBLIC

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# LEADERSHIP

## Service - Profit

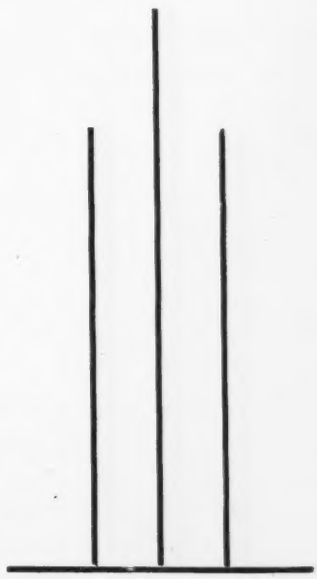
tunity to make real returns on the money invested.

The Republic franchise—either for an exclusive distributor or local dealer—carries with it a sales momentum of years' standing, built on a quality product sold at a consistent price and backed up with "good-will" building service.

Investigate the opportunities Republic offers you in your territory now.

Republic ***was*** the Leader, Republic ***is*** the Leader, Republic ***will continue*** to be the Leader.

REPUBLIC



**Co., Inc., Alma, Michigan**

# TRUCKS

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# Closing the Difficult Truck Prospect

By FRANK H. WILLIAMS

IT isn't the commercial car salesman who digs up the greatest number of prospects who makes the most money —it is the salesman who **closes** the greatest number of sales.

Some commercial car salesmen are particularly successful in this important matter and with the idea in mind that it would be interesting and valuable to other salesmen to learn about the way in which some top notchers do this, the writer recently interviewed a number of very successful commercial car salesmen on the way in which they close sales with difficult prospects.

Here are some of the most interesting and important points developed in these interviews:

**Salesman No. 1.**—"How do I close the difficult prospect? The same method doesn't work for every prospect, of course, but I have found that when I am up against a man who is lagging on signing on the dotted line it always helps things greatly if I suddenly seem to lose interest in the proposition and apparently don't care much whether the sale is made or not. In fact, if I lean back from the sale instead of trying to push it, this helps put the sale over.

"Suppose, for instance, that I am trying to sell a ton truck to a grocer. I find that he is a difficult man to sell but finally get him interested and get him to the point where the next logical thing is to get his signature on a contract. But this is the most difficult thing of all. The prospect holds back, he asks me to wait and all that sort of thing.

"Then when this situation develops I suddenly make it appear that I do no longer want to sell the prospect. This at once arouses his curiosity. Why am I holding back? Have I heard something which makes me think that he hasn't money enough to buy a car? Is there some other man who is more anxious for the truck I can immediately deliver than he is?

"As the man thinks about these matters he feels a determination to make the purchase in spite of my reluctance. He will show me that financially he is O. K. and that no other merchant can slip in and get the only truck I have for immediate delivery. And so he sells himself, he puts his name on the contract and the sale is made.

"It is simply a matter of psychology and I have worked this method several times with particularly difficult prospects and have put over sales which, for a time, looked as though they were going to be impossible to make."

**Salesman No. 2.**—"For quite a time after I got into the business of selling commercial cars I lost a high percentage of sales right at the last minute. I fell down on the closing end. I saw where I was falling down and made up my mind that I wasn't going to lose any more sales just because at the last minute I didn't have the punch to get the prospect to sign on the dotted line. I thought and thought about the proposition and studied on this thing of closing sales for quite a while and finally I worked out a plan which has helped me immensely.

"Now when I get up against a difficult prospect who simply won't sign up I put the whole thing up to him frankly like this:

"'I wish you'd help me out. During this time I've been talking to you about this commercial car I've gotten to feel that you are pretty keen and that you are a real friend of mine. Now, as you know, I make my living by selling commercial cars. But I am having difficulty in closing sales. Several times I have talked to prospects who have been just as much interested in the cars I am selling as you are but at the last minute they haven't signed up. Won't you tell me why it is that I can't get your signature? I know the fault must be mine because you are interested in this proposition and you know it is the right car for your business and I feel that a better salesman than I am could get you to buy it. Tell me where I've fallen down—tell me what I might have done to sell you the car. This will help me in making other sales, will help me make a living and I'll be so grateful to you that I won't pester you any more trying to sell you this car.'

"This sort of an appeal gives the prospect a different slant on the whole proposition, it makes him review all of the arguments I have put up to him in the effort to make him buy a car and invariably he sells himself by trying to help me out."

**Salesman No. 3.**—"That's a pretty difficult question you are putting up to me. I have no routine talk that I go through with in getting the difficult prospect to sign up. I simply treat each case as its individual demands seem to warrant.

"For instance, suppose that I am talking to a butcher who is using trucks in delivering his goods and who needs a new truck badly and who is interested in the truck I am selling but who won't sign up. In such a case I appeal to the man's desire to make money—which is always just about the strongest appeal that can be made.

"'Look here,' I'll say. 'While we're talking about this new truck you need, your old truck is running around the streets getting more worn out all the time. At any time something may happen to it which will make it necessary for you to spend a lot of money for repairs and which will make it impossible for me to take it in on the trade I've outlined to you at the price I'm offering you. You're taking a big chance of losing money by not signing up this deal at once.'

"This sort of an argument always makes the prospect see the necessity for immediate action and always is a big help in closing difficult sales.

"If I am dealing with a prospect who's never had a truck but who needs one in his business, I'll put the money-making angle of the deal up to him in this way:

"'Every day you delay in purchasing this truck is costing you real money. I've figured out for you just how much more it costs you to make deliveries in your present fashion than it would with the truck I'm trying to sell you. Now if you don't sign up today you're losing $10, if you don't get the truck tomorrow you'll lose $20, if you wait an entire week you'll be out $60. Sign up now and save this money.'

"This also helps me greatly in getting quick action.

"I've found in selling commercial cars that the argument which helps me the most in making sales is that which shows the prospects how they can make more money by buying the trucks I am selling."

**Salesman No. 4.**—"I frequently use a little flattery with a difficult prospect who doesn't want to sign up. I'll say something like this to him:

"'You're a busy man and you're making money and your time is worth real money. Why spend any more time talking about this proposition? You're convinced that this is the commercial car for you to buy. So sign up for it and save money. You can make more money by spending your time in your business than you can by keeping on talking about this deal.'

"This sort of talk pleases the prospect, makes him feel more successful than he is, perhaps, and makes him feel that I'm right about the thing and that he should sign up and save money. And, of course, when the prospect feels this way it helps me immensely in getting the signatures."

Aren't there some worth-while suggestions in all this for other commercial car salesmen in closing difficult prospects?

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### Automobile a Major Railroad Customer

More than 522,000 freight carloads of automobiles, motor trucks and parts (except tires and chains) were shipped last year. This volume of rail business is the third largest among all manufactures. The commodity which headed the list was refined petroleum and its products, calling for 1,110,107 carloads. As the greater part of this fuel is consumed by motor vehicles, it appears that the automobile is the leading industrial customer of the railroads.

# When the Dealer is Liable for a Manufacturer's Tax

AN automobile dealer bought a truck chassis and paid the government tax on it. He bought a body from another source and paid a tax on that. He then sold the truck and body, assembled as a complete vehicle. And now comes a government tax collector to tell him that he must pay a tax on the final selling price of the chassis with the body.

The legal editor of this publication is asked for an opinion as to where the dealer stands in this matter. Is the dealer a "manufacturer?" Is he subject to a manufacturer's tax? If so, what is the amount of the tax? And is he entitled to any refund or credit for the separate taxes already paid on the chassis and body?

ANSWERS.—Revenue Act, 1921, Sec. 900, provides "That from and after January 1, 1922, there shall be . . . paid upon the following articles sold . . . by the manufacturer, producer, or importer, a tax equivalent to the following percentages of the price for which so sold . . . (1) Automobile trucks and automobile wagons (including tires, inner tubes, parts, and accessories therefore, sold on or in connection therewith or with the sale thereof), 3 per centum." The tax on other automobile and motor cycles, including parts but not including tractors, is 5 per cent. There is also a 5 per cent tax on parts separately sold for trucks. The same section provides that a manufacturer selling both at retail and wholesale shall be taxable on the wholesale price of articles sold at retail.

Regulations 47, Article 7, under this section, provides that the term "manufacturer" shall include one who "by the combination of two or more articles produces a taxable article." The regulation also gives this example, which precisely fits the case before us:

"A, an automobile body manufacturer sells an automobile body in a knockdown condition but complete as to all its component parts, to B, a dealer, who assembles these component parts into a complete and usable automobile body, and installs it, or causes it to be installed on a chassis which he has purchased from a manufacturer who is a different person from the manufacturer of the body, and sells the completed automobile. A is the manufacturer of the automobile body, but may sell the same to B, tax free, under the certificate provided for in article 14. **B is the manufacturer of the automobile and subject to tax on the selling price of the completed automobile, but may take credit for the amount of tax paid by the manufacturer of the chassis."**

February 7, 1923, the United States Circuit Court of Appeals, Ninth Circuit, handed down a decision which appears to settle the liability of the dealer in the case before us for a manufacturer's tax. In the case before the court—Klepper vs. Carter—the validity of taxes for the year 1919 was involved. But the decision applies to the present act, because there has been no change in the manufacturer's tax statute and the regulations thereunder, so far as here pertinent.

Klepper was a retail dealer in trucks. He bought trucks from the Bethelem Motors Corporation, with cabs but without bodies. He bought bodies from the Weber Auto Body and Trailer Works, and sold the completed trucks at retail. The chassis manufacturer paid the war tax at three per cent on the price of the sales to Klepper, adding the tax to the invoice price. The body manufacturer handled the five per cent tax on the bodies in the same way.

Carter, a collector of internal revenue, demanded that Klepper pay an additional tax of three per cent on the gross sales price at which he sold the completed trucks, with added penalties for failure to report the tax. The collector, however, deducted the amount of the tax paid by Klepper to the chassis and body manufacturer. Upholding Klepper's liability for the manufacturer's tax, less the deduction, the Circuit Court of Appeals said:

"In our opinion Klepper was properly held to be a manufacturer or producer of automobile trucks. While he did not make any of the several parts, nevertheless, he bought the parts made by others and he sold a completed automobile truck. The fact that several different concerns did for him a retail salesman, what, under the prevailing method the purchaser may have had to do for himself, does not affect the question.

"We are not going too far when we recognize that the commonly known general method of transacting the automobile truck business, was for a person to buy the chassis from one dealer or maker, and a body from another, and then to assemble the two. Klepper saved the purchaser all this trouble and made it his business to retail the product of his purchases as an automobile truck. Thus he produced or manufactured the truck."

Because the facts of the case before us appear to be essentially the same as that presented to the Circuit Court of Appeals, we are of the opinion that the truck dealer in question is to be deemed a manufacturer of the trucks he sells after combining a chassis and a body bought from different sources; that, as such he is subject to a three per cent tax on the prices at which he sells; but that he is entitled to credit and deduction for the combined taxes paid to the chassis and body manufacturers.

## Bingo Timer

The all-metal track and contact points of the Bingo Timer are made of brass. They extend 1-16 of an in. beyond the surface of the molded distributing head.

The raised track is specified to give longer wear. The air gaps that separate the all-metal track from the contact points are, according to the maker, something new in timer construction. Their purpose is to allow the brush a clean make and break. The contacts and terminals of the distributing head are in one piece, molded in bakelite under 10 tons pressure.

All terminals are numbered and indicated black, blue, red and green to facilitate and insure proper attachment of the wires. The brush, which is of the wipe type, is a composition of graphite and metal, and is therefore self-lubricating. Enough copper is used to insure a good flow of current. The rotor holding the brush is die cast, which insures accuracy. The ring or timer housing, shown on the right, which holds the distributing head in place, is made of brass, nickel-plated, with loop for pull rod. Either of the two notches in the ring fits the offset in the molded distributing head.

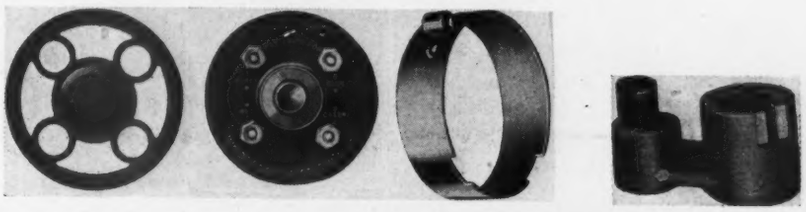
The pull rod loop, at the top of the ring and offset of the distributing head at the bottom, is in the proper position for cars and trucks. The pull rod loop, on the left side and the offset at the bottom, is the proper position for the Fordson tractor. This timer is made by the Wm. Deddens Mfg. Co., 32 E. Front St., Cincinnati, O.

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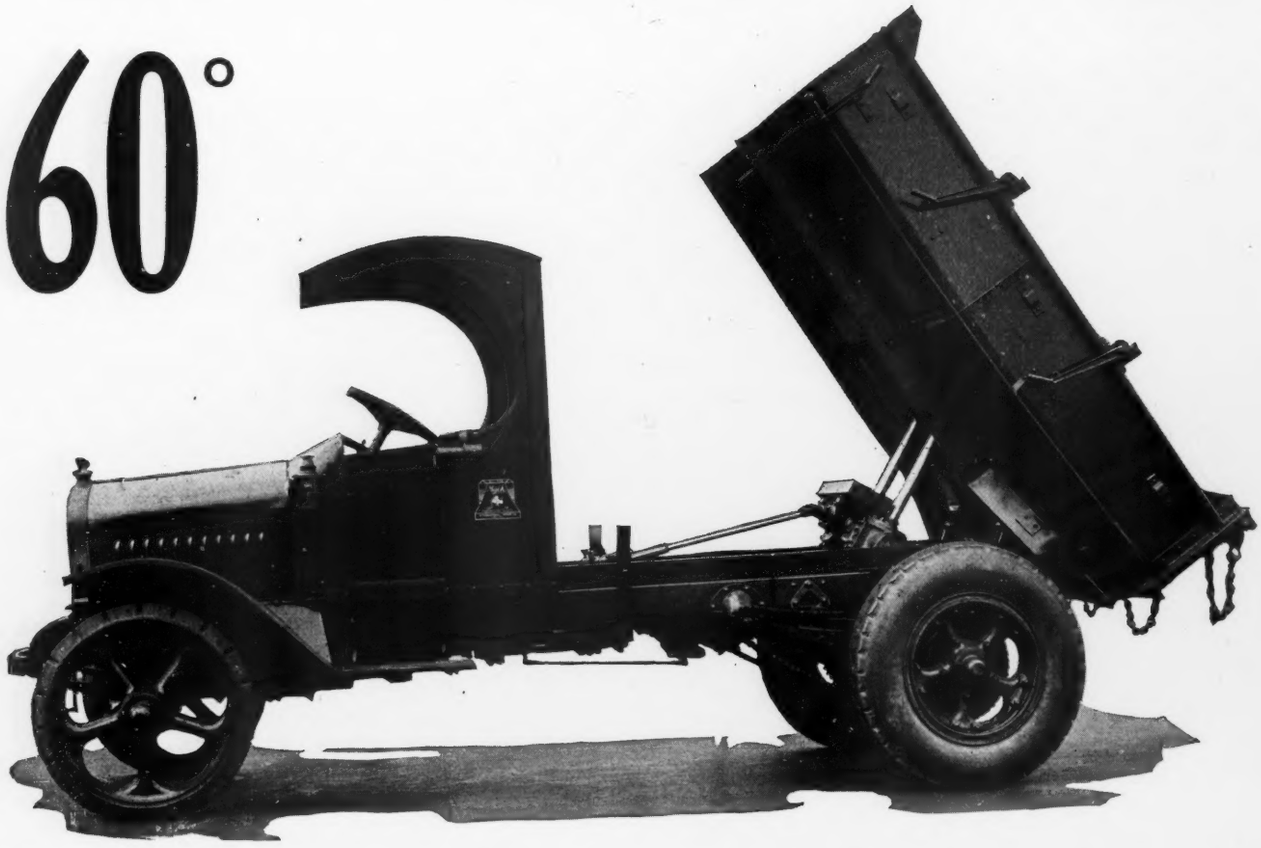
**The Acme Tool and Machine Co.,** Brookside Ave. and 11th St., Indianapolis, Ind., which was organized several months ago, is being operated at capacity production and additional equipment has been purchased to take care of the increased demand. The company manufactures tools, jigs, fixtures and does general machine work.

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**The C. M. Hall Lamp Co.,** announces that a substantial volume of additional business justifies the company in the expansion of its Detroit plant and equipment. Work has already begun on the new extension.



**Showing the Bingo Timer Disassembled Into Its Four Chief Components**




# Hydro Hoist Dumps All the Load!

DUMPING angles of 60° are just what a contractor or road-building engineer wants. Such an angle gives a clean dump. It releases all of the load. Besides that, Heil builds his bodies tapered 3″ wider at rear to make it easy for the stickiest clay or wet material to slide out. The inside of the body is smooth, rivets are all counter-sunk, there are no obstructions to prevent the complete discharge of the load.

Batch bodies make it easy to haul aggregate direct to the mixer. Your truck is loaded with the proper amount of aggregate. Only a part need be dumped at a time. The swinging partitions can be operated by one man. Partitions can be installed in used jobs as well as new ones. All tail gates are double acting and may be fitted with a gravel spreading device.

Heil Bodies and Heil Hydro Hoists can be mounted on any make or model truck. Special body equipment and hand hoists for light-weight trucks.

*Dealers Write for Literature and Prices*

## THE HEIL CO.

### HEIL TO OPEN BRANCH AT PHILADELPHIA

The Heil Company will open its branch office, service stations and stock rooms in Philadelphia, at 26th and Parrish Streets, some time in June. George W. Kuhlman, well known sales engineer of the company, has been appointed branch manager. The Philadelphia branch will carry a complete stock of Dump Bodies, Hydro Hoists and Tanks. Service on Heil Equipment will be available to all in this territory.

1143 Montana Ave.
**Milwaukee, Wis.**

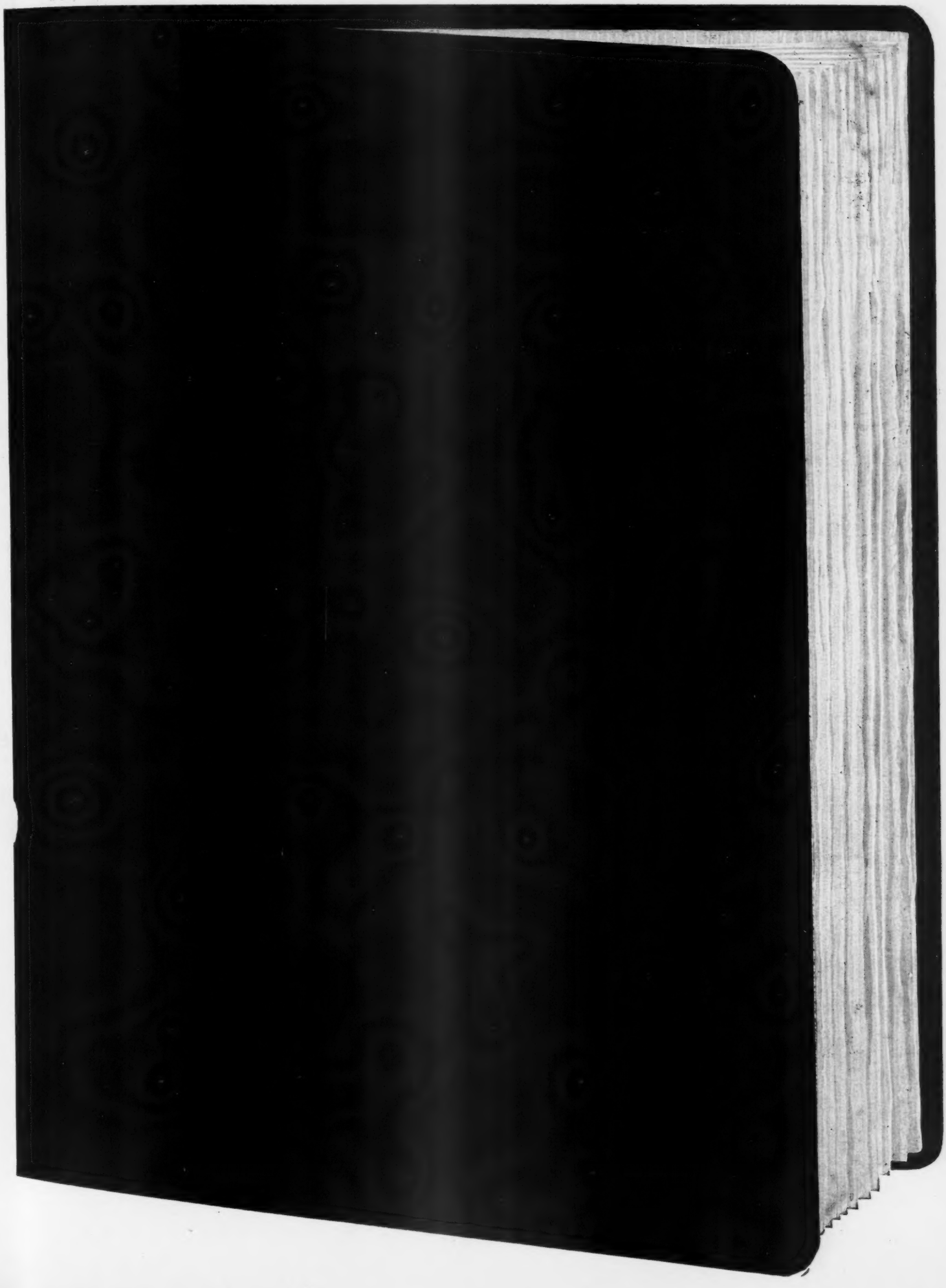
Quality TANKS BODIES & HOISTS "Made by Heil"

Manufacturers of Steel Dump Bodies, Hydro Hoists and Compartment Truck Tanks

**DISTRIBUTORS**

The Heil Co., Chicago, Ill.
The Heil Northwestern Sales Co., St. Paul, Minn.
The McKenna Co., Cleveland, Ohio
The Mayer Body Corp., Pittsburgh, Pa.
The General Auto Truck Co., Washington, D. C.
Standard Parts Corp., Richmond, Va.
Motive Parts Corp., New York City
Modern Vehicle Co., San Francisco, Cal.
H. P. Wilson Co., Denver, Colo.
Bacon-Matheson Forge Co., Seattle, Wash.
Steffen Van Steenwyck Co., Sioux City, Iowa
New Mexico Road Equipment Co., Roswell, New Mexico
Engineering Equipment Co., Lansing, Mich.
Montana Good Roads Machinery Co., Billings, Mont.

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Foreword
EVER NOTICE how people seek their own level? So do motor truck dealers.
Applications for STANDARD MOTOR TRUCK Dealerships come from those who want to represent the best truck value in America. They naturally turn to STANDARD with its reputation for substantial value and capable performance.
Standard
DETROIT
USA

# "The Friction-Proofed Feature Made This Big Mileage Possible"




The Yellow Taxicab and Baggage Transfer of Elkhart, Indiana, first tried Brunswick Truck Tires more than a year ago. We quote from a letter written us eight months later by Mr. J. E. Sailor, owner.

## 30,030 Miles

"This tire made 165 miles per day for 182 days, or 30,030 miles, and is still going."

## Through Summer Heat

"In view that this tire ran through the entire summer heat, I feel that the FRICTION PROOF FEATURE of your tires made this big mileage service possible."

## Six 40x8 Brunswicks

"I now have six 40x8 Brunswick tires running, all of which have made better than 18,000 miles and still look good for many more miles."

## Brunswicks Most Satisfactory

"During my ten years of passenger bus and taxi business I have tried out nearly all the well-known brands of tires and the Brunswick has given me the most satisfactory service."

***Brunswicks save in fuel, oil and replacement. They cost no more than other standard truck tires.***

THE BRUNSWICK-BALKE-COLLENDER CO. BRUNSWICK CORD ESTABLISHED 1845

*The* BRUNSWICK RED SEAL *identifies this super cord tire*

**Friction-Proofed BRUNSWICK TRUCK TIRES**

**The Brunswick-Balke-Collender Company**

Manufacturers, Established 1845 — General Offices: Chicago, Illinois — Branches in All Principal Cities


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# GILLIAM

## Always

GILLIAM Tapered Roller Bearings ALWAYS have been recognized by their advanced design which insures STRENGTH, COMPACTNESS and DEPENDABILITY.



GILLIAM Tapered Roller Bearings ALWAYS have been made with plain tapered rollers flush at one end and fully concaved at the other to provide proper LUBRICATION.



GILLIAM Tapered Roller Bearings ALWAYS have been made with the maximum number of rollers of the largest possible diameter insuring utmost CAPACITY.



GILLIAM Tapered Roller Bearings ALWAYS have been made with a clean-cut, one-piece steel stamped cage—in the interest of SERVICE.

THE GILLIAM MANUFACTURING CO.
CANTON, OHIO

*150 Service Distributors in leading cities in the United States*

*In addition to 42 passenger car and 40 truck builders, the following axle manufacturers use GILLIAM Tapered Roller Bearings: Adams, Clark, Columbia, Flint, Salisbury, Sheldon, Standard Equipment, Torbensen, U. S., Vulcan, Wisconsin.*




Cups Cones Rollers
**ALLOY Steel THROUGHOUT**

# DIXON'S 677

is an economical Transmission and Rear Axle Lubricant of exceptional long life.

Its use means that original factory adjustments of transmission and rear axle may be maintained for a greater period of time because of this long life.

The use of a short-life lubricant presents the necessity of changing factory adjustments with the possible danger of not getting the proper alignment of parts.

**JOSEPH DIXON CRUCIBLE CO.**

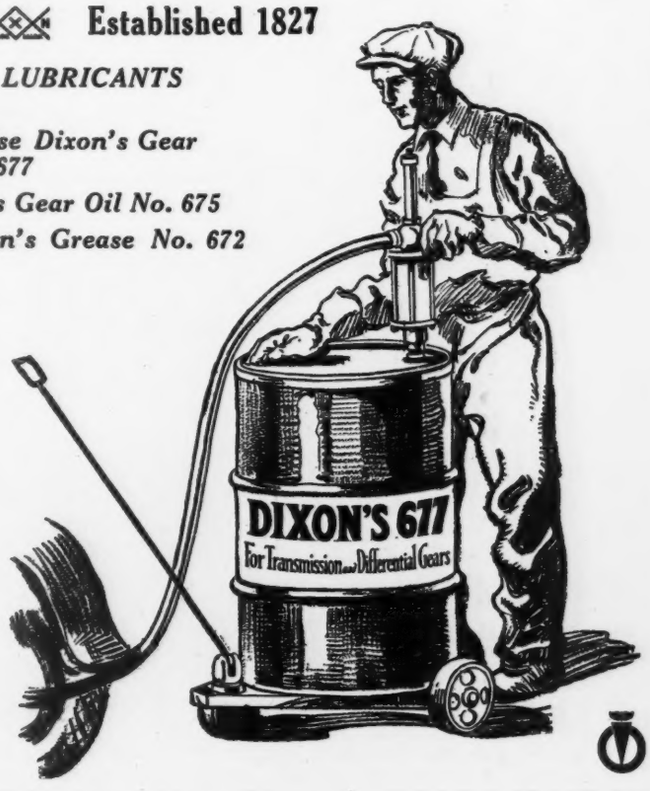
**Jersey City, N. J., U. S. A.** **Established 1827**

*MAKERS OF QUALITY LUBRICANTS*

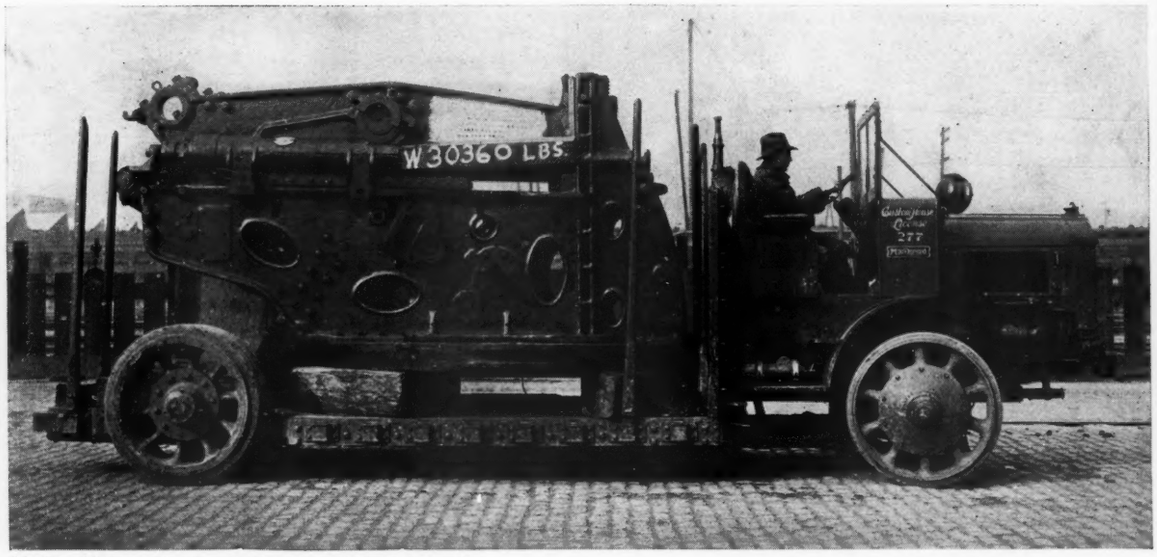
*For Spur and Bevel Gears Use Dixon's Gear Lubricant No. 677*

*For Worm Drives Use Dixon's Gear Oil No. 675*

*For Universal Joints Use Dixon's Grease No. 672*




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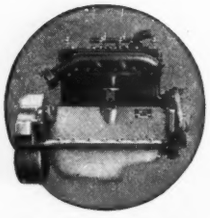



MacDonald Heavy Duty Low-Bed Truck. Built by MacDonald Truck Division, Union Construction Co., San Francisco

# *No job's too big for Buda*

There's no sentiment connected with heavy hauling; it's all a question of cost per ton-mile. That's why the Union Construction Company of San Francisco selected the Buda engine for their MacDonald Heavy-Duty Drays. Their investigation proved conclusively that for stamina, for power, for low-cost, continuous year-in and year-out service, Buda was supreme in this field.

The Union Construction Company is not alone in its estimate of Buda performance. Among the well informed, both in the manufacturing and the retail field, the name Buda is synonymous with low-cost operation, with power, with reliability, and strong selling appeal. When you tell a "prospect" your truck is Buda-equipped, there's little more to be said.



BUILT FOR A PURPOSE

THE BUDA COMPANY, HARVEY CHICAGO SUBURB ILL.
ESTABLISHED 1881

*Buy only genuine Buda Parts for the Buda engine. New Parts Catalog No. 402 is now ready*

BUDA
The
ENGINE

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# *This truck depends on its tire valves, too*

TIRE manufacturers are justly proud because their pneumatic truck tires successfully bear up under the daily strain of carrying goods hundreds of miles to distant cities. They have done splendid work in making, for you and other truck owners, tires that give long service on good roads and bad.

But a truck in going from Washington to New York, for example, must depend upon more than good tires.

A tire is only as good as the valve in it. No matter how good the rubber is, or how well the tire is made, it will not give the service of which it is capable if the tire valve does not retain the air in it.

## Schrader Tire Valves hold air

Schrader Universal Tire Valves have been used successfully for nearly thirty years to retain air in pneumatic tires. That is the reason why practically all truck-tire manufacturers in the United States and Canada make them part of their tire equipment. They rely on Schrader Tire Valves to help you get the maximum mileage out of these tires and thus cut your tire costs.

## Operate automatically

Schrader Truck Tire Valves operate simply, automatically. You can inflate easily and quickly without extra manipulation of the valve parts. Valves and parts are thoroughly tested before leaving the factory.

Care and skill in manufacture make all truck-tire valve parts interchangeable. No matter where in the world you buy any one of these parts it will fit any Schrader Truck Tire Valve. And you can get Schrader Tire Valve parts wherever motor accessories are sold.

When your men replace a valve inside, always have them put in another Schrader High Pressure Valve Inside, made specially for truck tires. Let every inspector make sure that no truck goes out without a Schrader Rim Nut, Valve Cap, and Dust Cap screwed tightly on every tire. Have your drivers carry extras in their tool kits for emergencies. Get these parts from your supply house.

**A. SCHRADER'S SON, Inc., Brooklyn, N. Y.**

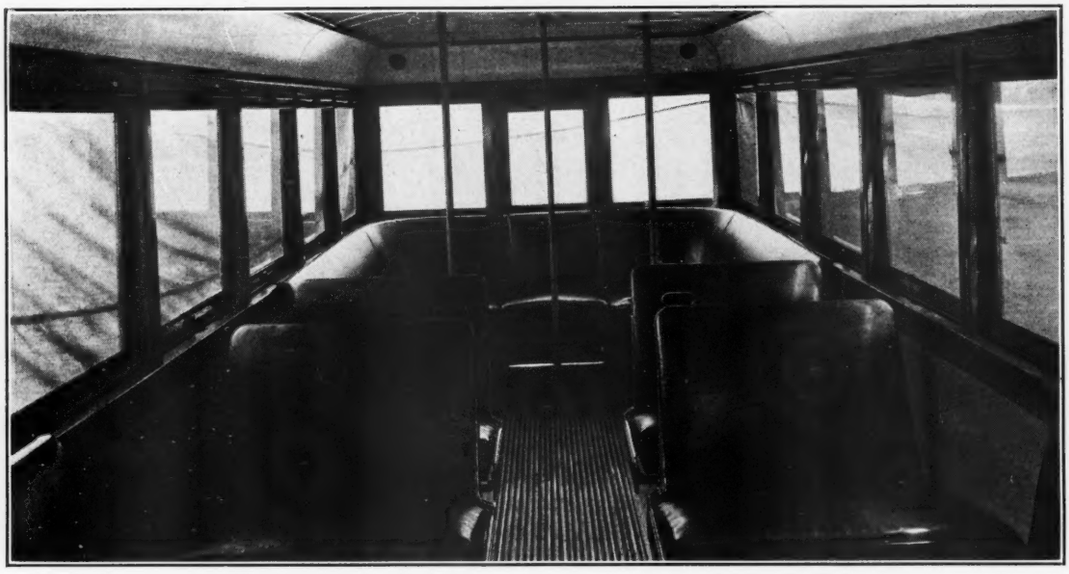
**Chicago Toronto London**

***Manufacturers of Schrader Valve Insides, Valve Caps, and Tire Pressure Gauges***

# SCHRADER

## TIRE VALVES

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# Seven Reasons

**why the use of Genuine Keratol will mean**

# Profit to You

**REASON No. 4**

***Works Up Easily*** Pliability—so necessary in shaping and fitting upholstery—is a paramount quality of Genuine Keratol.

This feature alone, by aiding the workman's skill, and saving his time, very appreciably lowers production costs.

And the resulting beauty and finish secured means larger sales and less sales resistance.

***The Logical Material—The Ultimate Material***

**The Keratol Company** **Newark, N. J.**

**7**

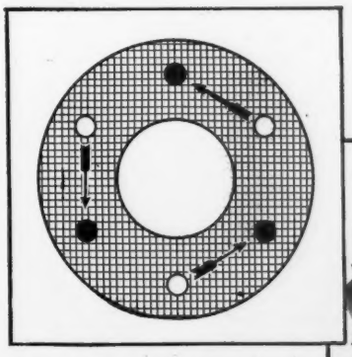
**KERATOL FEATURES**

**Low Initial Cost**
**Resistance to Wear, Knocks and Scuffing**
**No Waste in Cutting**
**Works Up Easily**
**Finish**
**Unharmed by Gas, Oil or Grease**
**Guaranteed**

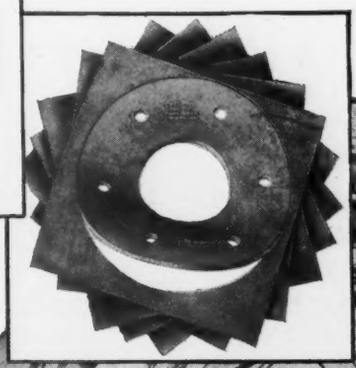
GENUINE KERATOL GUARANTEED

REGISTERED TRADE-MARK

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*Above is an ordinary fabric disc, its layers of fabric laid parallel. The three black holes are the driving bolts —the three white ones the driven. Note that the left hand driving bolt is the only one that can pull in the direction of the cotton strands. The other two must pull on a bias. This stretches the whole disc out of true, causing vibration and "whipping" of the shaft.*



*Now examine the Thermoid-Hardy patented Fanwise Construction. The disc is built up with the strands of each fabric layer running in a different direction. Each sector is equally strong, equally elastic. Every stress is balanced—the torsional, the centrifugal, and the lateral. This eliminates vibration and holds the shaft in true on every revolution.*



# Both fabric discs—*but the resemblance stops there*

### *Why one universal will stretch while the other holds shaft true on every revolution*

When the flexible fabric disc first began to displace the metal universal, it had one big fault—it pulled out of true after a few thousand miles, causing vibration and "whipping" of the entire shaft.

Not until the famous Fanwise Construction of the Thermoid-Hardy disc was worked out did the fabric universal become a practical necessity.

The Thermoid-Hardy Joint was perfected to eliminate backlash and its accompanying troubles. Its flexible fabric discs cushion even the heaviest blows. It transmits a smooth, even flow of power instead of jolts and lost motion.

Examine the Thermoid-Hardy disc, with its patented Fanwise Construction. This disc is built up in layers, but the strands of each layer run in a *different direction*. The result is an even stress at every point—an equal strain between every pair of bolt holes.

Contrast this construction with that of the ordinary disc. Its layers of fabric are laid *parallel*. This means that only the left hand driving bolt can pull in the direction of the strands of cotton. The other two must pull *across*—on a bias. Stretching of the disc soon follows.

### *Fanwise Construction gives enormous strength*

Fanwise Construction has added to elasticity a *rugged strength*. The Thermoid-Hardy universal withstands a torsional strain that twists a two-inch steel shaft—it is good for over 60,000 miles on a heavy truck, over *any* road, and without attention of any sort.

Thermoid-Hardy discs are now packaged for distribution through jobbers and dealers for replacement sales. Full information, prices, and discounts sent on request.

### *A book you should have*

We have prepared a book, "Universal Joints—Their Use and Misuse," that treats the subject from every angle—the mechanical principles, construction, lubrication, manufacture, strength tests, and records of performance. Send for your copy today.

**THERMOID RUBBER COMPANY**

*Sole American Manufacturers*

***Factory and Main Offices, Trenton, N. J.***

New York, Chicago, Los Angeles, Atlanta, Detroit, Seattle, Kansas City, Boston, Cleveland, San Francisco, London, Paris, Turin

**LIST OF USERS**

Allis Chalmers Mfg. Co.
The Autocar Co.
Available Truck Co
Barley Motor Car Co. (Roamer)
Chandler Motor Car Co.
Crow-Elkhart Motor Corp.
Jas Cunningham Son & Co.
Dart Truck & Tractor Corp
The Dauch Mfg. Co.
Diamond T Motor Car Co.
Doane Motor Truck Co.
Fageol Motors Co.
H. H. Franklin Mfg. Co.
Garford Motor Truck Co.
Gramm-Bernstein Motor Truck Co.
Hawkeye Truck Co.
Hendrickson Motor Truck Co.
Highway Motors Co.
Holt Mfg. Co.
Indiana Truck Co.
International Harvester Co., of A., Inc.
International Motor Co.
Jackson Motors Corp.
Kelsey Motor Co.
Kentucky Wagon Mfg. Co., Inc.
King Zeitler Co.
Lakewood Eng. Co.
Lexington Motor Co.
Locomobile Co.
Maxwell Motors Corp.
Menominee Motor Truck Co.
Mercer Motors Co.
Moreland Motor Truck Co.

**LIST OF USERS**

Nelson & LeMoon
E. A. Nelson Automobile Co.
Nelson Motor Truck Co.
D. A. Newcomer Co.
O'Connell Motor Truck Co.
Oliver Tractor Co.
Oneida Motor Truck Co.
Packard Motor Car Co.
Parker Motor Truck Co.
Patriot Motors Co.
Reliance Motor Truck Co.
Reo Motor Car Co.
Reynolds Motor Truck Co.
Root & Van Dervoort Eng. Co.
Sanford Motor Truck Co.
Southwark Fdy. & Mach. Co.
Stoughton Wagon Co.
Studebaker Corp.
Stutes Mar Tractor Co.
Templar Motors Co.
Tioga Steel & Iron Co.
Townmotor Co.
Traffic Motor Truck Co.
Transport Truck Co.
Twin City Four Wheel Drive Co., Inc.
United Motors Co.
Walter Motor Truck Co.
Ward La France Truck Corp., Inc.
Geo. D. Whitcomb Co.
Wichita Motors Co.
H. E. Wilcox Motor Co.
Willys-Overland, Inc.
Zeitler & Lamson Truck & Tractor Co

# THERMOID-HARDY
## UNIVERSAL JOINT

***Makers of "Thermoid Hydraulic Compressed Brake Lining" and "Thermoid Crolide Compound Tires"***

THIS SYMBOL IN ANY ADVERTISEMENT MEANS: SEE "CHILTON AUTOMOBILE DIRECTORY" FOR COMPLETE BUYING INFORMATION



The Famous Blades produced by the Armorers of Damascus during the Sixteenth Century were the results of surprising skill, great patience and much experiment.

The Blades were much sought after by the adventurous gentlemen of that period and were prized for their toughness, spring and absolute reliability.

## MAKERS OF CERTIFIED MALLEABLE CASTINGS

**Certificate Holders for the Quarter Ending December 31st, 1922**

| | |
|---|---|
| Albany Malleable Iron Co. | Voorheesville, N. Y. |
| Albion Malleable Iron Co. | Albion, Mich. |
| American Malleable Castings Co. | Marion, O. |
| American Malleables Co. | Lancaster, N. Y., and Owosso, Mich. |
| Badger Malleable & Mfg. Co. | South Milwaukee, Wis. |
| Baltimore Malleable Iron & Steel Casting Co. | Baltimore, Md. |
| Belle City Malleable Iron Co. | Racine, Wis. |
| Chain Belt Co. | Milwaukee, Wis. |
| Chicago Malleable Castings Co. | West Pullman, Chicago, Ill. |
| Columbus Malleable Iron Co., The | Columbus, O. |
| Danville Malleable Iron Co. | Danville, Ill. |
| Dayton Malleable Iron Co. | Dayton, O., Ironton, O., and Canton, O. |
| Decatur Malleable Iron Co. | Decatur, Ill. |
| Devlin Mfg. Co., Thomas | Philadelphia, Pa. |
| Eastern Malleable Iron Co., The— Works, Naugatuck, Conn.; Bridgeport Malleable Iron Works, Bridgeport, Conn.; Troy Malleable Iron Works, Troy, N. Y.; Wilmington Malleable Iron Works, Wilmington, Del.; Vulcan Iron Works, New Britain, Conn. | Naugatuck Malleable Iron |
| Erie Malleable Iron Co. | Erie, Pa. |
| Federal Malleable Co. | West Allis, Wis. |
| Flagg & Co., Stanley G. | Philadelphia, Pa. |
| Fort Pitt Malleable Iron Co. | Pittsburgh, Pa. |
| Frazer & Jones Co. | Syracuse, N. Y. |
| General Electric Co. | Erie, Pa. |
| Illinois Malleable Iron Co. | Chicago, Ill. |
| Iowa Malleable Iron Co. | Fairfield, Ia. |
| Kalamazoo Malleable Iron Co. | Kalamazoo, Mich. |
| Laconia Car Co. | Laconia, N. H. |
| Lakeside Malleable Castings Co. | Racine, Wis. |
| Link-Belt Co. | Indianapolis, Ind. |
| Marion Malleable Iron Works | Marion, Ind. |
| Moline Malleable Iron Co. | St. Charles, Ill. |
| National Malleable Castings Co., The | Cleveland, O., Chicago, Ill., Indianapolis, Ind., Toledo, O., E. St. Louis, Ill. |
| Northern Malleable Iron Co. | St. Paul, Minn. |
| Northwestern Malleable Iron Co. | Milwaukee, Wis. |
| Peoria Malleable Castings Co. | Peoria, Ill. |
| Pittsburgh Malleable Iron Co. | Pittsburgh, Pa. |
| Rhode Island Malleable Iron Works | Hillsgrove, R. I. |
| Rockford Malleable Iron Works | Rockford, Ill. |
| Ross-Meehan Foundries, The | Chattanooga, Tenn. |
| St. Louis Malleable Casting Co. | St. Louis, Mo. |
| Saginaw Malleable Iron Co. | Saginaw, Mich. |
| Standard Malleable Castings Co. | Terre Haute, Ind. |
| Stowell Co., The | South Milwaukee, Wis. |
| Symington Co., T. H., The | Rochester, N. Y. |
| Temple Malleable Iron & Steel Co. | Temple, Pa. |
| Terre Haute Malleable & Mfg. Co. | Terre Haute, Ind. |
| Trenton Malleable Iron Co., The | Trenton, N. J. |
| Union Malleable Iron Co., The | E. Moline, Ill. |
| Vermilion Malleable Iron Co. | Hoopeston, Ill. |
| Wanner Malleable Iron Co. | Hammond, Ind. |
| Warren Tool & Forge Co. | Warren, Ohio |
| Webster Mfg. Co., The | Chicago, Ill. |
| Wisconsin Malleable Iron Co. | Milwaukee, Wis. |
| York Mfg. Co. | York, Pa. |
| Zanesville Malleable Co. | Zanesville, O. |

## *Like The Trade Guilds of The Middle Ages*

In the strict supervision of the product of its members and the high standards of quality that must be met before a member's castings can be marketed as "Certified Malleable," the work of The American Malleable Castings Association parallels the activities of The Trade Guilds of the Middle Ages.

(a) Improvement of malleable iron through research.

(b) The dissemination of accurate information to the trade.

(c) The guardianship of consumers' interests are the sole functions of this Association.

Like the old guilds, the Association sees that its member foundries conform to adopted standards of material and workmanship; while strict supervision and close inspection by the Association's Consulting Engineering Department is accepted by critical buyers of malleables as an absolute guaranty of quality.

Through Association research the tensile strength of malleable iron has been increased from 38,000 to 50,000 pounds per square inch, and elongation from 5 per cent to 10 per cent. Other valuable properties, such as uniformity, soundness, rust resistance, and easy machining have shown even greater improvement. Today Certified Malleables are a guarantee of positive and dependable physical properties in vital parts of all classes of machinery.

THE AMERICAN MALLEABLE CASTINGS ASSN.
The 1900 Euclid Building Cleveland, Ohio

POSITIVE · PHYSICAL · PROPERTIES
AcA CERTIFIED TRADE MARK

# CERTIFIED-MALLEABLE CASTINGS

THIS SYMBOL IN ANY ADVERTISEMENT MEANS: SEE "CHILTON AUTOMOBILE DIRECTORY" FOR COMPLETE BUYING INFORMATION




Walker Electrics operate at lowest cost on city routes. Carroll Ice Cream deliveries prove it every day in Chicago.

TRUCK dealers—are you watching the signs—how electric trucks are replacing gas trucks on city routes in cities of 50,000 population and upward where electric trucks are represented?

Do you realize that it usually costs 50% to 100% more to operate gas trucks than electric trucks on city routes?

Walker Electric Truck Dealers can earn more net profit, are more satisfied and have brighter prospects of future business. Why? Because about 80% of Walker orders are ***repeat orders.*** Briefly that tells the whole story.

There are still a few desirable territories open to high-grade, responsible dealers. We will be pleased to submit additional facts regarding Walker Dealerships upon receipt of your inquiry.

## WALKER VEHICLE COMPANY, Chicago

LEADING MANUFACTURER OF ELECTRIC STREET TRUCKS

New York Boston Philadelphia Buffalo
Newark Atlanta New Orleans

*Load Capacities: ½—1—2—3½—5 tons*

# WALKER ELECTRIC TRUCKS

**LOWEST TRUCKING COST ON CITY ROUTES**

THIS SYMBOL IN ANY ADVERTISEMENT MEANS: SEE "CHILTON AUTOMOBILE DIRECTORY" FOR COMPLETE BUYING INFORMATION

# "A *Better* Body Pays"

VEHISOTE Paneled Body Built by the Mifflinburg Body Co., Mifflinburg, Pa.




## A Good Chassis Deserves a Good Body

Just as the "life" of a chassis is its engine, the "life" of a commercial body is its PANELS. Obviously, a body can be no better than its panels.

And there is ONLY ONE KIND OF PANEL that is the *most suitable* for ALL bodies—

TRADE **VEHISOTE** MARK

## (*Wood-Fibre*) Panels

The *most enduring* panels made. They cannot rust, like steel. They cannot split, crack or check, like ordinary wood.

VEHISOTE Panels provide the best background for advertising—and *keep their neat appearance the longest.*

In case of accident, a VEHISOTE Panel does not have to be replaced and entirely repainted; it can be *repaired* quickly, easily and at slight expense, and *only the damaged spot* needs repainting.

## THE PANTASOTE COMPANY

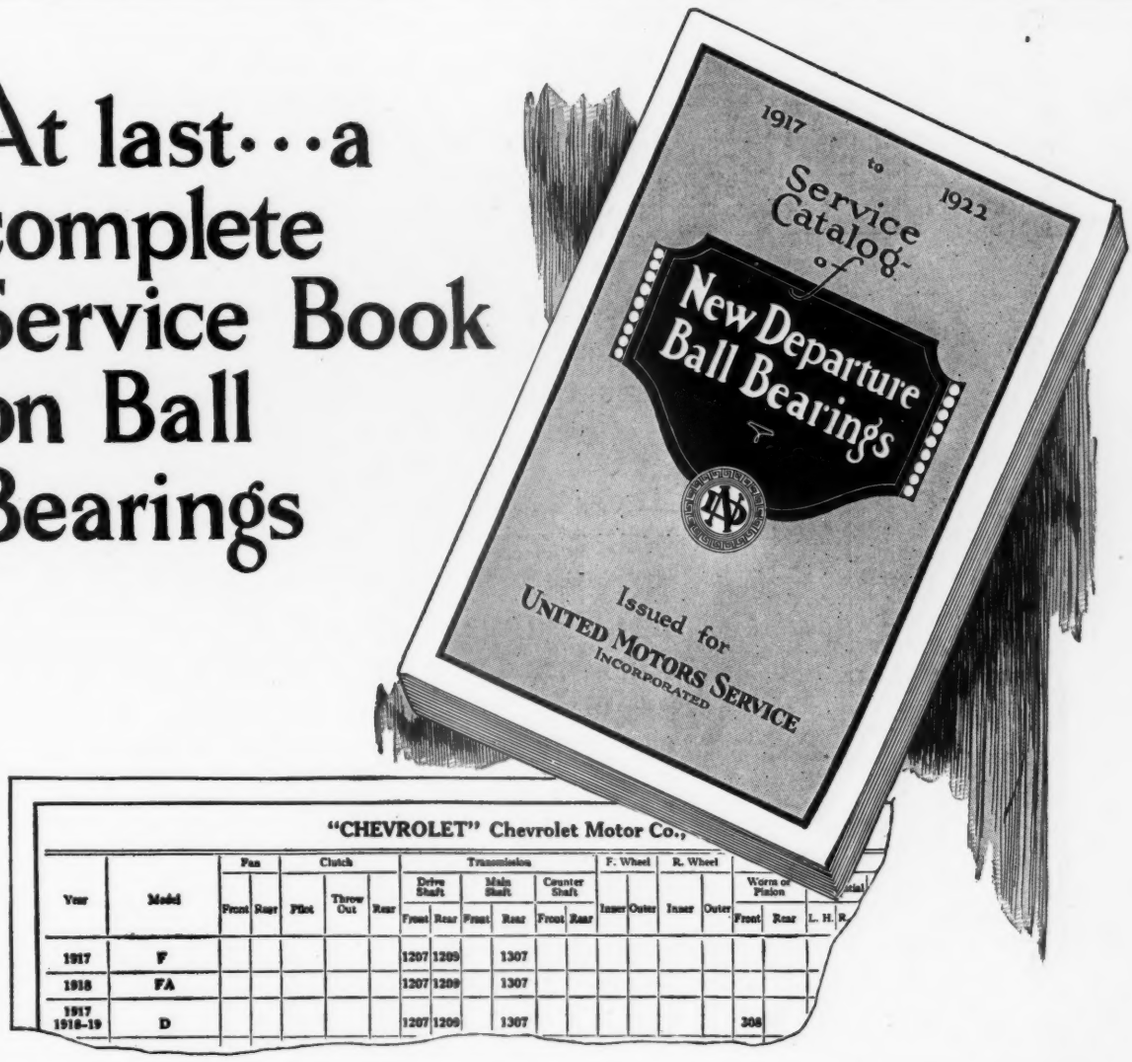
CHICAGO
Peoples Gas Bldg.

NEW YORK
11 Broadway

DETROIT
1446 Penobscot Bldg.


THIS SYMBOL IN ANY ADVERTISEMENT MEANS: SEE "CHILTON AUTOMOBILE DIRECTORY" FOR COMPLETE BUYING INFORMATION

# At last···a complete Service Book on Ball Bearings




## It is Free

For the first time you can get a real and complete service catalog on ball bearings. It lists the ball bearing equipment in motor cars and trucks—it tells about the servicing of ball bearing equipment—it shows what replacement bearing to order and how to order it—it includes accurate dimension tables—it tells what New Departure ball bearing to use for every automotive ball bearing need.

Get your copy of this 157 page book today. It is free. Address your request to Department X.




# UNITED MOTORS SERVICE

*General Offices:* **INCORPORATED** *Detroit, Michigan*

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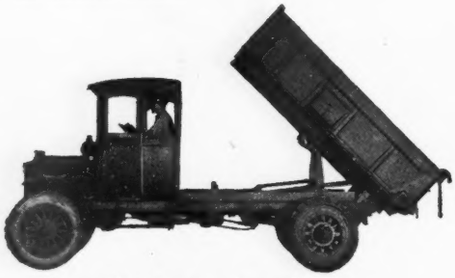
# Selling Dependable Hoists *PAYS!*

# St. Paul Hoists



***Vertical Hoist***

Equipped with complete power take-off for all modern trucks.



***Underbody Hoist***

A specially desirable type for many kinds of business complete with power take-off from $220 to $375.



***Superior Steel Body***

Made in seven models, all of 8 gauge steel with double-acting tail gate, and hinges ready for mounting.

One of the most profitable branches in the automotive field today is found in selling the dependable St. Paul Hydraulic Hoists and Bodies.

There are so many uses for these hoists and bodies and so many companies and individuals in the market for them that you have no difficulty in locating prospects. Profits on sales are large and worth while. You are assured of a steady income practically from the start.

Look at the list of our distributors and agencies. That on the face of it is proof positive of the profit found in handling this business. The line of bodies offered is complete and *high grade*. And yet St. Paul Hoists sell at comparatively low prices.

The vertical type has power take-off supplied free on all modern trucks and sells for $320 to $350. The underbody type which requires no sub-frame or extra parts, complete with power take-off as low as $220.

There is a better opportunity today to make money with St. Paul Hydraulic Hoists than ever before. You can only be sure of this fact if you investigate the possibilities offered. Let us put you in touch with them. Write to

**ST. PAUL AGENCIES AND SERVICE STATIONS**

BALTIMORE, MD., Kunkel Service Co., Light and Lee Sts.
BILLINGS, MONT., F. B. Connelly Machinery Co.
BIRMINGHAM, ALA., Birmingham Motor Co.
BUFFALO, N. Y., Truck Equipment Co., 1016 Lafayette Ave.
CAMBRIDGE, MASS., Springfield Com'l Body Co., 80 Charles River Road
CHICAGO, ILL., Jacob Press' Sons, 501 W. 33d St.
CINCINNATI, OHIO, Kelly, Roth & Co., 509 Depot St.
CLEVELAND, OHIO, American Coach & Body Co., 3809 Clark Ave.
DAVENPORT, IOWA, Hydraulic Hoist Co., 417 W. 3rd St.
DETROIT, MICH., Hydraulic Hoist Mfg. Co., 5730 Michigan Ave.
KANSAS CITY, MO., National Steel Products Co., 1611 Crystal Ave.
KANSAS CITY, MO., Standard Steel Works, 16th and Holmes Ave.
LOS ANGELES, CAL., Arthur L. Eaton, 3769 Moneta Ave.
MINNEAPOLIS, MINN., Hydraulic Hoist Co., Hennepin and 10th Ave., S. E.
NEWARK, N. Y., Arcadia Trailer Corporation
NEW YORK CITY, N. Y., Interboro Hoist and Body Corp., Borden Ave. and Van Dam St., Long Island City.
OKLAHOMA CITY, OKLA., American Tank Co.
PHILADELPHIA, PA. Rodenhausen's Excelsior Wagon Works, 1437 N. Hutchinson St.
PITTSBURGH, PA., Hydraulic Hoist and Body Co., Braddock Ave. and Kensington St.
PORTLAND, ORE., Fred Dundee, E. Water and Salmon Sts.
ST. LOUIS, MO., Rogers Schmitt Wire & Iron Co., 1815 N. 23rd St.
SAN FRANCISCO, CAL., Arthur L. Eaton, 40 McDougal Court
SEATTLE, WASH., Earl B. Staley Co., 1002 E. Seneca St.
SPOKANE, WASH., March-Strickle Motor Co.
SPRINGFIELD, MASS., Springfield Com'l Body Co., 385 Liberty St.
WASHINGTON, D. C., Witt Will Co., Inc., 52 N St., Northeast

**Hydraulic Hoist Mfg. Co.**
**292 Walnut Street**
**St. Paul Minn.**



## Something New in a Commercial Car Pneumatic

**The Goodrich Heavy Duty Cord. Massive, rugged, durable.**

**It has a scientifically designed anti-skid tread of tough, wear resisting rubber.**

**A newly developed sidewall construction reinforced with sturdy ribs of rubber provides extra protection against curb and rut chafing.**

**You have only to see it, to know that it is the pneumatic tire the commercial car has needed. Ask a Goodrich Truck Tire Distributor to show it to you.**

THE B. F. GOODRICH RUBBER CO.
ESTABLISHED 1870

# Goodrich
# Heavy-Duty Cord
## "Best in the Long Run"

THIS SYMBOL IN ANY ADVERTISEMENT MEANS: SEE "CHILTON AUTOMOBILE DIRECTORY" FOR COMPLETE BUYING INFORMATION

# MEAD-MORRISON

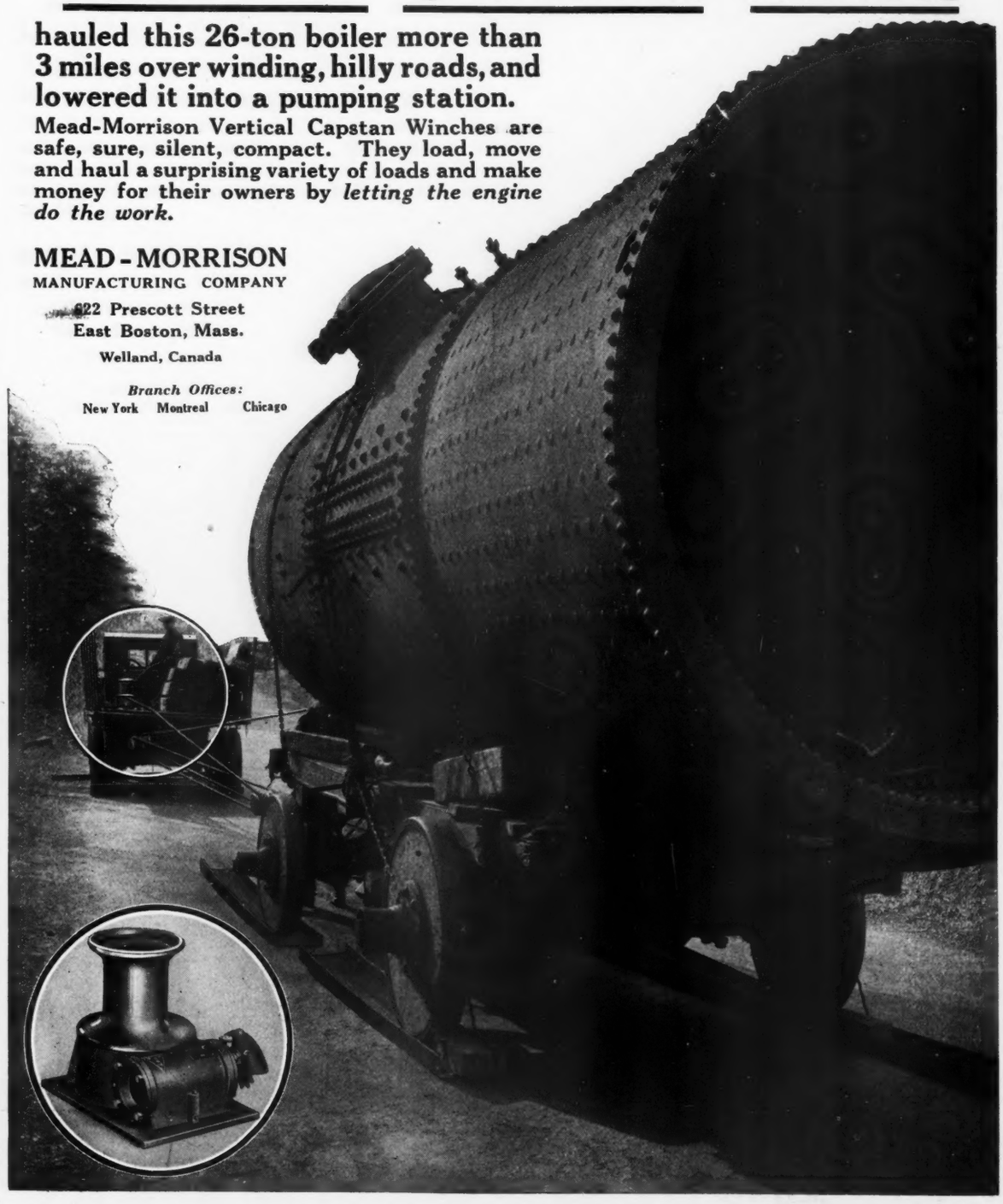
## VERTICAL CAPSTAN WINCH

**hauled this 26-ton boiler more than 3 miles over winding, hilly roads, and lowered it into a pumping station.**

**Mead-Morrison Vertical Capstan Winches are safe, sure, silent, compact. They load, move and haul a surprising variety of loads and make money for their owners by *letting the engine do the work.***

**MEAD-MORRISON**
MANUFACTURING COMPANY
622 Prescott Street
East Boston, Mass.
Welland, Canada

*Branch Offices:*
New York Montreal Chicago



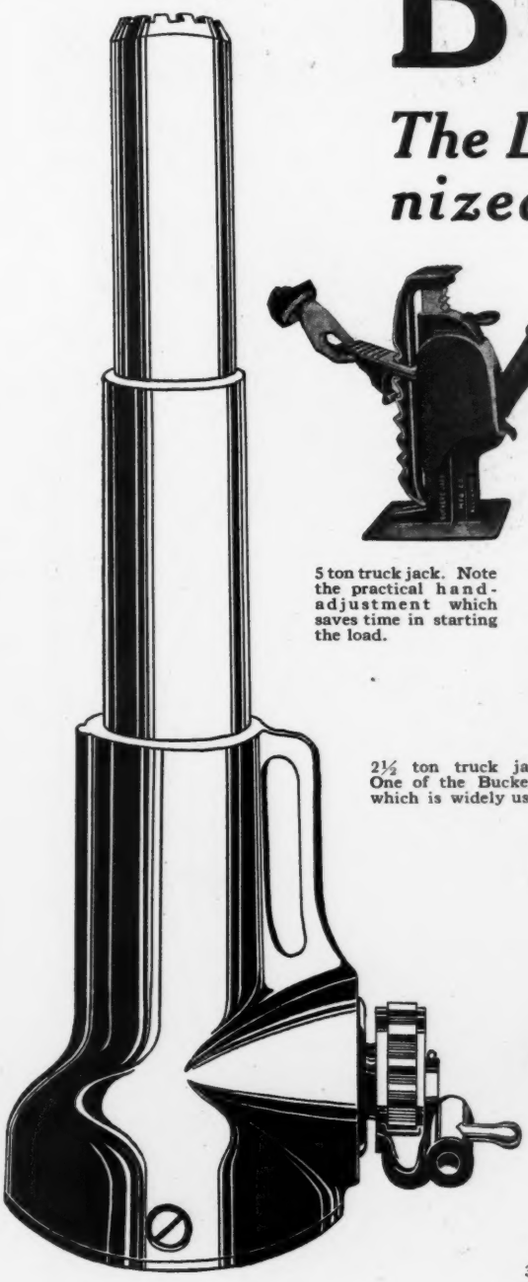
Multiplies Man-Power
HOISTING – HAULING – HANDLING

THIS SYMBOL IN ANY ADVERTISEMENT MEANS: SEE "CHILTON AUTOMOBILE DIRECTORY" FOR COMPLETE BUYING INFORMATION

10 ton telescopic jack. Stands 10⅝" high; raises to 23½". Sturdy, reliable—recommended for use with large pneumatic tires.

# BUCKEYE

## *The Line of Jacks Which is Recognized as Being Most Complete*





5 ton truck jack. Note the practical hand-adjustment which saves time in starting the load.



2½ ton truck jack. One of the Buckeyes which is widely used.



3, 5, or 7½ ton easy-operating geared truck jack.



3½ ton jack with adjustable foot. This foot may be used as a side lift or turned over the top for an extension.



5 ton automatic lowering truck or general purpose jack.



10 ton automatic lowering jack for general purpose or automotive use.

Buckeye Jacks are made in a ***complete*** line. There is a Buckeye for the manufacturer or user of the light car or truck, and one for the heaviest truck made.

Buckeye models are famous for their quick, reliable action and sturdy, dependable design. Take, for example, our strong 5 ton truck jack, fitted with quick hand-adjustment, which readily positions the jack for speedy service.

Or the 10 ton telescopic truck jack which dealers find a splendid seller. It stands 10⅝" high, and has a continuous lift up to 23½". It operates on ball bearings, and is unusually powerful, convenient and efficient—a splendid jack for trucks with large pneumatic tires.

***Jobbers and Dealers:*** Jacks are all-year-round sellers, year in and year out. ***Some*** jacks, however, sell much better than others, and you'll find your largest profits lie in handling the Buckeye line. Write and let us show you why this is the case.

**THE BUCKEYE JACK MFG. CO.**
**ALLIANCE OHIO**

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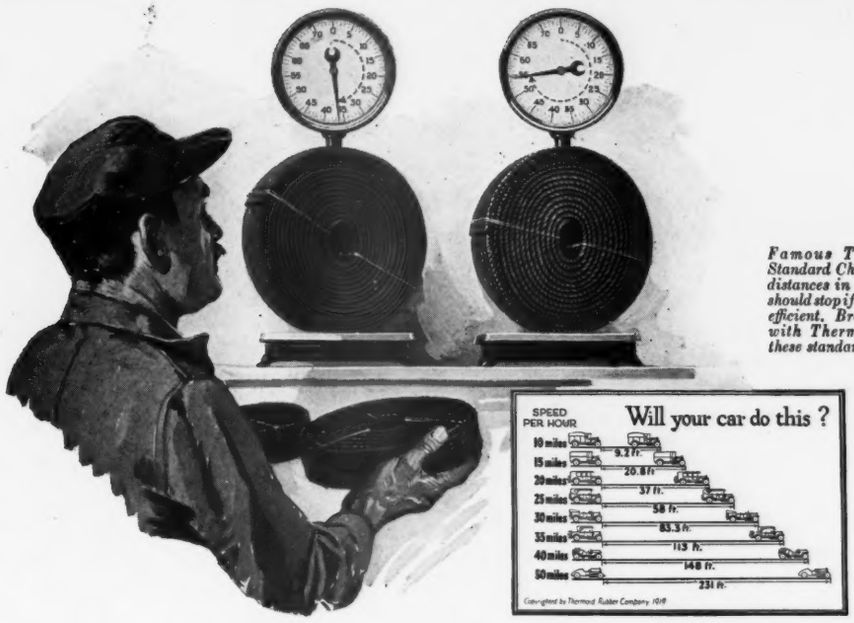
BOWER
ROLLER BEARING CO.
Detroit · Michigan

The little slogan, "Carries the load—takes the thrust", in a very simple way explains one of the secrets of the great staying qualities of the Bower Roller Bearing.

We would like to explain further the many other superior points of this well known bearing, which continue to interest so many of the well known automobile manufacturers. May we?




THIS SYMBOL IN ANY ADVERTISEMENT MEANS: SEE "CHILTON AUTOMOBILE DIRECTORY" FOR COMPLETE BUYING INFORMATION




*Famous Thermoid Standard Chart—shows distances in which car should stop if brakes are efficient. Brakes lined with Thermoid meet these standards.*

# At least 40% extra material



*The new Thermoid Brake Relining Machine. Cuts time 60%—does a better job than old hand methods. Price $15. $17.50 West of the Rocky Mountains. $25. outside U. S.*

*Write for special offer to Thermoid dealers.*

*A simple test which shows the 40% **more material** in Thermoid Brake Lining*

A roll of Thermoid Brake Lining—100 ft.—was weighed. The indicator registered 54 pounds, 8 ounces. Then one after another, the rolls of four other leading manufacturers were put on the scales.

Thermoid outweighed each by over 40%!

This means that your buyer gets more for his money in Thermoid than in any other lining. He gets longer wear—by about 40%—and a sure, *even* gripping surface until Thermoid is worn wafer-thin.

***Tell your customers this***

"Thermoid Brake Lining is compressed in the factory, instead of on *your* brake drums, with *you* paying for the frequent needed adjustment.

"Most of the 'give' is taken out of Thermoid before it leaves the factory—

"And *40% more material* is put in its place!

"Thermoid *wears* down instead of *mashing* down—it doesn't 'grab' or slip. You'll get constant gripping power with Thermoid till your lining is worn wafer-thin."

These facts are building brake-lining business for thousands of dealers and garagemen today.

And the Thermoid advertising will help them this year by telling this story to the millions of motorists from coast to coast.

Are you getting your share of the relining business that is being done with Thermoid? Write today for prices and full information about sales helps furnished to all Thermoid dealers.

**THERMOID RUBBER COMPANY**

***Factory and Main Offices, Trenton, N. J.***

New York Chicago Los Angeles Detroit Cleveland
Atlanta Kansas City Seattle Boston San Francisco
London Paris Turin

# Thermoid Brake Lining

## *Hydraulic Compressed*

***Makers of "Thermoid-Hardy Universal Joints" and "Thermoid Crolide Compound Tires"***



# *One* lining that gives your oil a chance–

### *At last—a Ford Transmission Lining which CANNOT foul up the oiling system*

The oil you put into your car cannot do everything. Even the best grade is soon "choked" by a transmission lining which sheds its treating compounds after a few thousand miles.

It's been a big problem to get a lining which would *grip*, and still *retain* its treatment.

Rexoid does this—here's the proof!

Below is shown one of the exhaustive experiments which we imposed on Rexoid, the new Ford transmission lining, before we put it on the market.

### *An astonishing difference in five leading makes*

Below is shown a startling test of five different makes of treated lining. The varying shades of the oil in the beakers mark the extent to which each make dissolved its compounds in the short space of *six hours*. Note the oil in the fifth beaker. It remained absolutely clear—not only after six but after forty-eight hours of continuous soaking.

The lining it held was Rexoid—the new Ford transmission lining that is *insoluble in oil*.

Only in Rexoid do your customers get this insoluble compound. It is compressed, practically vulcanized, into every fibre of a high-grade woven fabric. Compound and fabric become one solid mass.

This hydraulic treatment gives Rexoid

1. More material to the square inch
2. A smoother surface and a longer life

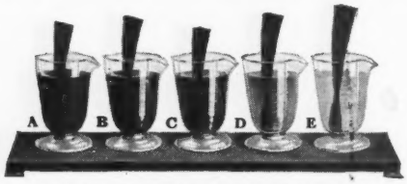
Tell your trade the facts about Rexoid. It's easy to sell, and because it fills a real need your customers are satisfied. This means continuous profits to you.

Leading jobbers carry Rexoid. If your jobber cannot supply you, send us his name.

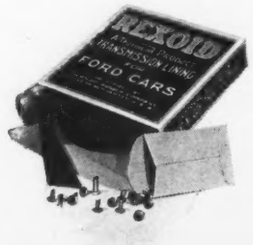
**THERMOID RUBBER COMPANY**

*Factory and Main Offices, Trenton, N. J.*

New York Chicago Los Angeles Detroit Atlanta
Cleveland Kansas City Seattle Boston San Francisco
London Turin Paris




*After 48 hours in oil, four makes of lining (A, B, C, and D) had discolored the oil, giving off tar and other harmful ingredients. The only lining that did not foul up the oil was E—Rexoid.*




# REXOID

***Transmission Lining for Ford Cars***

# *Cost of Reputation*

The amount of money spent by this company in advertising, has invariably been overestimated by those unacquainted with the figures.

There are good reasons for this in the fact that Timken publicity has been consistent and long-continued; and still more in the fact that Timken Axles have verified the conservative statements of Timken.

It is not by brilliant advances and sharp retreats but by the steady progress of twenty years—a new idea here, a little added quality there, a constant forward development of axle design—that the name Timken has identified itself with dependability.

Thus factory vigilance and advertising truthfulness have together worked a reduction in selling cost both for us and for Timken-equipped cars.

The use of Timken Axles by car builders who had for years built their own axles proves not only Timken reputation but also the reasonable cost of that reputation.

THE TIMKEN-DETROIT AXLE COMPANY, DETROIT, MICH.
Sole Representatives in the British Isles:
AUTOMOTIVE PRODUCTS COMPANY, 3, Berners Street, London, W. 1.




Magazine advertising is economical and productive in proportion as it is supported by the word-of-mouth advertising of the buyers.

# Trucks Engineered to the User's Requirements Help Dealers Make Money

GARFORD dealers are pre-eminently satisfied because they have real transportation to sell and are selling it with profit.

Some good dealers succeed in selling trucks just because there is a demand for trucks but the measure of success is increased when the dealer can offer transportation to meet the user's requirements on a basis that gets the sale.

Present opportunities for profit are too good for a dealer to content himself with less than the full measure of truck value and the full measure of sales co-operation, financing and advertising at the disposal of dealers associated with GARFORD.

The condition of business is a call to substantial business men to engage in the selling of dependable transportation especially when that business can be made as dependable a source of income as the GARFORD franchise is today. Write for particulars.

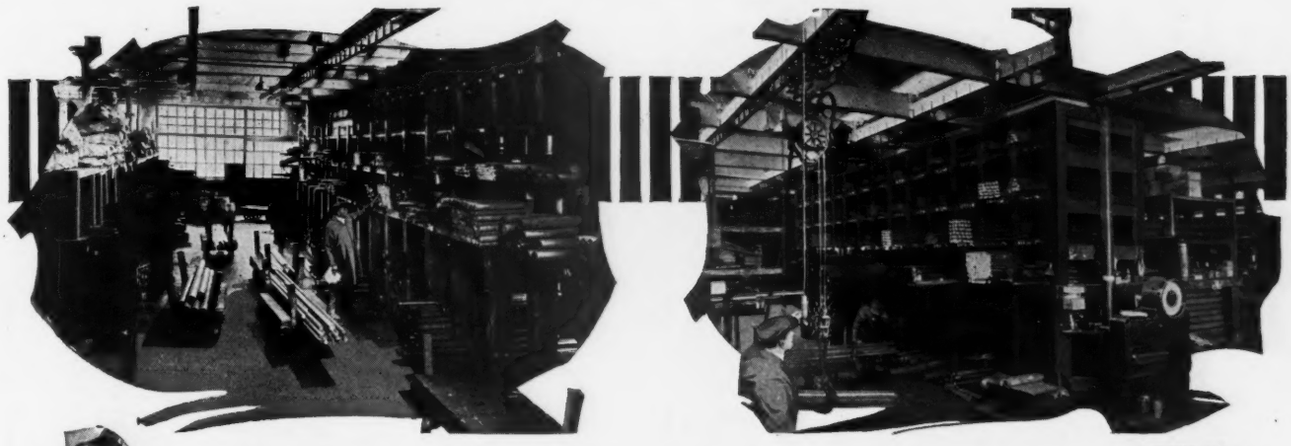
**The Garford Motor Truck Company, Lima, Ohio**

**Makers of Motor Trucks and Motor Buses**

**GARFORD**

**DEPENDABLE TRANSPORTATION**

THIS SYMBOL IN ANY ADVERTISEMENT MEANS: SEE "CHILTON AUTOMOBILE DIRECTORY" FOR COMPLETE BUYING INFORMATION





# Factors in STROM BALL BEARINGS Supremacy



## No. 2—The Raw Stock Room

Here is the impregnable foundation of the perfect performance of STROM ball bearings. STROM bearing steel—made to our own specifications, by America's most expert steel workers, yet subjected to searching chemical and physical tests before use—has that unvarying and exact texture which alone could withstand the untiring watchfulness and machine precision of STROM ball bearing production. Such raw material—plus constructive testing and analyzing continued from bar-stock to shipping-box—is an important factor in determining STROM supremacy.

STROM guaranteed ball bearings, on *new* or *replacement* work, reduce friction to the vanishing point—

*"Wherever a Shaft Turns"*

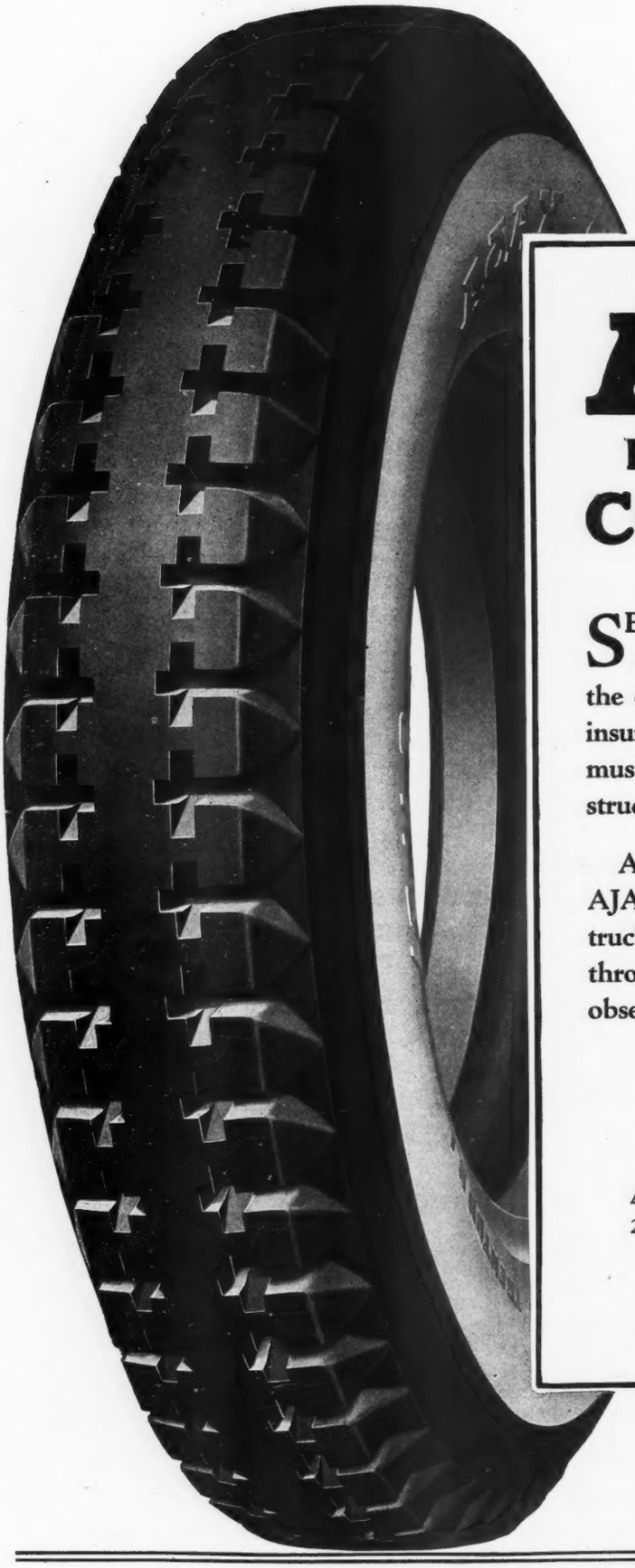
(1976)




*An Organization Built for Precision*

*Scientific in Principle and Practice*

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# AJAX
## PNEUMATIC TRUCK
# CORD TIRES

SERVICE and economy in a pneumatic truck tire are dependent upon the enduring qualities built into it. To insure a full measure of endurance, there must be proper balance in materials, construction and design.

Achievement of proper balance in AJAX Cord Tires for motor bus and truck service has been accomplished through long experience and scientific observation of the severest kind of tests.

Motor bus and truck owners are invited to correspond with us on their problems relating to pneumatic cord tires. Make use of this service, without obligation.

AJAX RUBBER COMPANY, Inc.
220 W. 57th Street New York City

*Branches in principal cities*

NEW FEATURES IN CONSTRUCTION AND DESIGN

THIS SYMBOL IN ANY ADVERTISEMENT MEANS: SEE "CHILTON AUTOMOBILE DIRECTORY" FOR COMPLETE BUYING INFORMATION

# Pierce Arrow

## HEAVY DUTY MOTOR TRUCKS

*Chassis Sizes*

| | | |
|---|---|---|
| 2-ton | 4-ton | 6-ton |
| 3-ton | 5-ton | 7½-ton |

*Tractors:* *3-ton* *5-ton* *7½-ton*

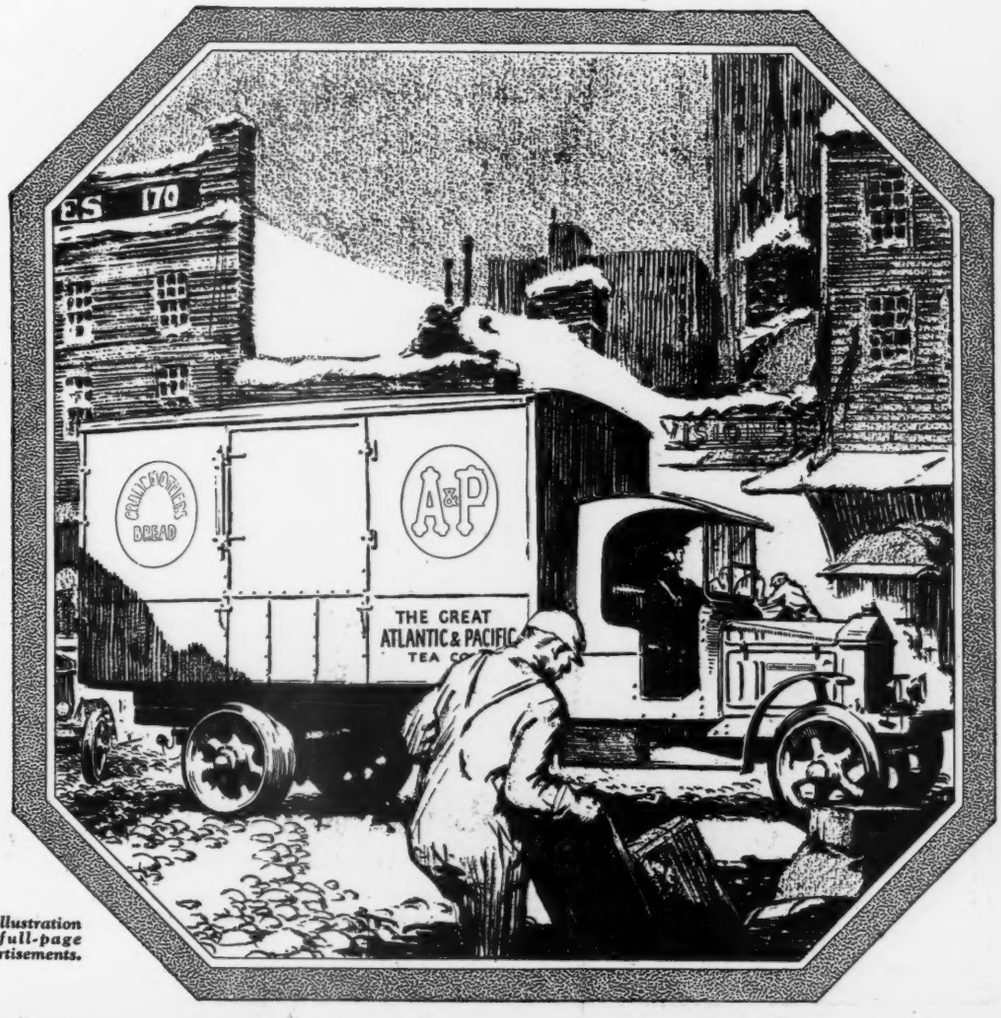
In nearly every locality in the United States we know of buyers who are going to purchase Pierce-Arrow Trucks during the next few months.

Some of them already own Pierce-Arrows and thus have first-hand knowledge of their ability; others have been convinced by investigating results obtained by owners; and still others are impressed by the aggressive national advertising campaign now being waged.

If there is no Pierce-Arrow representative in your locality, an unusual opportunity is open to some enterprising person.

THE PIERCE-ARROW MOTOR CAR CO.
*Buffalo, New York*

PIERCE-ARROW




*Reduced reproduction of illustration appearing in one of the full-page Saturday Evening Post advertisements.*

THIS SYMBOL IN ANY ADVERTISEMENT MEANS: SEE "CHILTON AUTOMOBILE DIRECTORY" FOR COMPLETE BUYING INFORMATION

# FEDERAL
EXTRA SERVICE
# TIRES

## Careful Cost Accounting Leads to Choice of Federal Cord Tires

NOWHERE are transportation costs more closely calculated than in the rapidly expanding bus service.

The Milwaukee Electric Railway & Light Company operates one of the most thoroughly and carefully organized bus services in the United States, traveling from Milwaukee to Fond du Lac, Oconomowoc, Madison, Janesville, Beloit, Racine, Kenosha, and other Wisconsin points. Its busses ride over 600 miles of highway, some of them covering a hundred miles a day.

It means much to every operator of a truck, bus or delivery service when so highly organized and conservative an institution decides, after exhaustive test and close cost analysis, upon a certain tire as standard equipment.

Near you there is an Exclusive Authorized Distributor of Federal Tires who will give you indisputable proof that these tires will reduce your costs of operation and keep your equipment running.

FEDERAL RUBBER COMPANY
*Cudahy, Wisconsin*



*This luxurious limousine bus, the highest development of this rapidly growing form of passenger transportation, is equipped with Federal Cord Tires, as are all the busses of the Milwaukee Electric Railway & Light Company*

THIS SYMBOL IN ANY ADVERTISEMENT MEANS: SEE "CHILTON AUTOMOBILE DIRECTORY" FOR COMPLETE BUYING INFORMATION

# How Would You Like to Average Two Truck Sales a Week?

**The Brooklyn Transport dealer is selling more than a truck a day—Denver has reached the one-a-day average—while Minneapolis is setting a fast pace with a high mark of five sales in one day closely following a previous day's record of three.**

**In the face of these and many similar accomplishments, doesn't the two-a-week suggestion seem altogether within your reach? And think what the maintenance of this volume for the rest of 1923 would mean in net profits! Just do a little figuring.**

## *Why They're Doing It!*

1. Transport performance
2. A full line
3. Complete equipment
4. A practical plan for *locating* prospects and developing sales.

**Models and Capacities**
*Including Electrical Equipment*
Model 15, 2000 lbs. max.
Model 26, 3000 lbs. max.
Model 36, 4000 lbs. max.

**May we tell you more about our two-a-week opportunity?**

**TRANSPORT TRUCK CO.**
Mt. Pleasant, Michigan

**Models and Capacities**
*Including Electrical Equipment*
Model 55, 6000 lbs. max.
Model 61, 7000 lbs. max.
Model 75, 10,000 lbs. max.

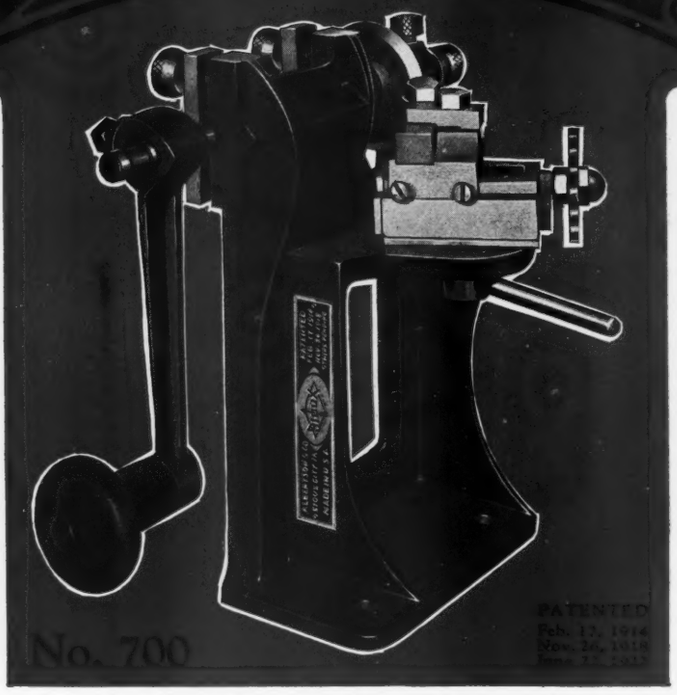
**Transport is a Specialized Truck** **Every Unit Nationally Serviced**




*Rapid Transport Fleet of the Wagner Baking Co., Detroit, Michigan*

# TRANSPORT


THIS SYMBOL IN ANY ADVERTISEMENT MEANS: SEE "CHILTON AUTOMOBILE DIRECTORY" FOR COMPLETE BUYING INFORMATION




# Little Sioux Valve Lathe

Give your shop a square deal by equipping it with reliable and accurate tools. Good tools will pay 100% dividends.

The "Little Sioux" Valve Lathe fills a need in every shop. Refaces valves up to 2½ inches, either 30, 45 or 60 degree angles. Is simple, self-adjusting and absolutely Accurate. Investigate "Sioux" Tools and learn why they build business and insure greater shop profits.

## Sold by All Live Jobbers

Write for Catalogue and Valve Seat Reamer Specifications

ALBERTSON & CO. SIOUX CITY, IOWA

SIOUX

Trade Mark Reg U.S. Patent Office

THIS SYMBOL IN ANY ADVERTISEMENT MEANS: SEE "CHILTON AUTOMOBILE DIRECTORY" FOR COMPLETE BUYING INFORMATION




One of a Fleet of Twenty-five 1½ Ton Federals Equipped With Morand Cushion Wheels
Owned by the Orange-Crush Company, Chicago, Ill.

# *Protection Pays*

THE prime purpose of the Morand Cushion Wheel is Protection—protection of the truck and the load.

To gain this protection of truck and load is the reason why the Orange-Crush Company just recently put a fleet of twenty-five new Federal Trucks on Morand Cushion Wheels.

Morand users are satisfied, because Morand Cushion Wheels actually protect, save, and bring in profits.

Write us for full details of the Morand Standard Cushion Wheel, and the Morand Demountable Cushion Element which replaces giant pneumatics without wheel change.

## The Morand Cushion Wheel Co.

800-906 South May Street
Chicago, Illinois

MORAND
CUSHION WHEELS




## Get This Catalog

# The "RED BOOK" of the SPRING INDUSTRY

Our new catalogue of replacement springs is ready for distribution. It quotes rock-bottom prices.

QUALITY in American Springs is universally admitted. Now you can get these high-grade, perfect-fitting springs at prices that assure you a big volume of spring business.

Send the coupon for this book. Get more than your share of the replacement business in your territory.

## AMERICAN Springs

### AMERICAN AUTOPARTS COMPANY

9779 French Road

Detroit Michigan

*Use The Coupon*

American Auto Parts Company
9779 French Road, Detroit, Michigan

Gentlemen:—Send me your new "rock-bottom prices" replacement spring catalogue.

_____

_____

_____

THIS SYMBOL IN ANY ADVERTISEMENT MEANS: SEE "CHILTON AUTOMOBILE DIRECTORY" FOR COMPLETE BUYING INFORMATION

# Gill



*Interlocking-Joint, 75c*

**Engines fitted with Gill *Interlocking-Joint* Piston rings *stay put*. Compression is held in—excess oil is kept out.**

**That's why these rings stand so high among patented piston rings; why they have first call among experts.**

**A record just as good has been established in their own field by Special *Oil-Wiper* and Servus *Step-Cut* rings, made by the same precision processes.**

**All three rings are individually cast of the special grey iron composition that has proved unequaled in vitality and ability to resist wear. All three are lathe turned for quick seating.**

**Quick service from large stocks at leading jobbers, backed by 36 factory branches. 11,000 sizes and oversizes. The right rings *quick*, at economy prices.**




GILL MANUFACTURING COMPANY
8300 South Chicago Avenue, Chicago

*Canadian Factory*—415 King St. W. (Brown Engineering Co.), Toronto
*Sole Canadian Distributor*—Canadian General Electric Company, Limited
*Export*—American Steel Export Co., Woolworth Building, New York City

# Special



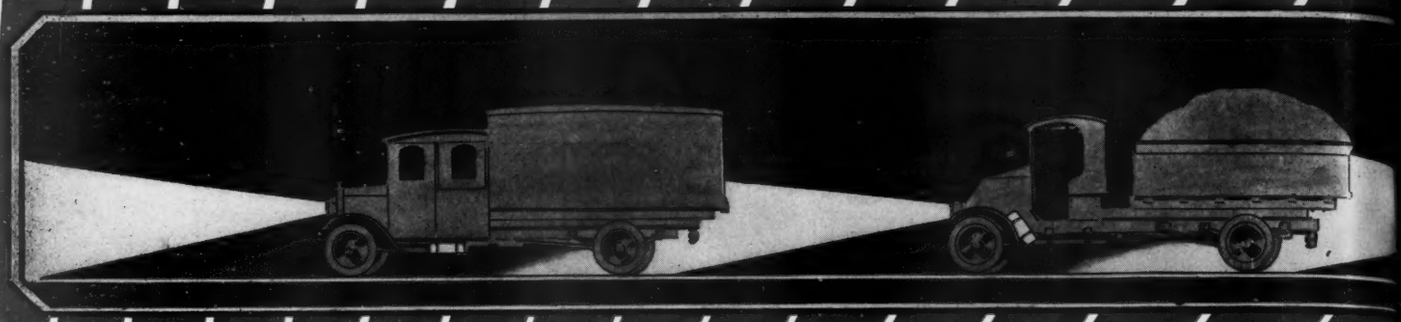
*Oil-Wiper, 50c*



*Step-Cut, 30c*

# Servus

THIS SYMBOL IN ANY ADVERTISEMENT MEANS: SEE "CHILTON AUTOMOBILE DIRECTORY" FOR COMPLETE BUYING INFORMATION



# WHEN *the* SUN
## What Happens to Truck

ONE moonlight night does not make a summer, nor does one concrete road make a highway system. Your truck has to meet all conditions—it is not a pleasure car.

Be sure it has the lighting system that cannot be bumped, jolted or jarred out of commission, and that pierces the darkest nights and the foggiest, rainiest ways with its steady stream of artificial daylight.




THE GAS OF A



# GOES DOWN
## Transportation ?

Prest-O-Lite Gas—the oldest service to the automotive industry—is approved by public authorities. Put it on your new or old trucks. As economical as it is efficient—once installed, you buy nothing but the gas, and there are 22,000 Prest-O-Lite Gas Stations where you may exchange empty tanks for charged ones.

This convenient and dependable lighting service adds to the earning power of your trucks. Install it now.

THE PREST-O-LITE COMPANY, Inc.
*Small Tank Sales Department*
INDIANAPOLIS, INDIANA
New York Office: 30 East 42nd St. Pacific Coast Office: 599 Eighth St., San Francisco
In Canada: Prest-O-Lite Company of Canada, Ltd., Toronto




THOUSAND USES

# Pep up your Power with SPLITDORF Ignition



THE new Model SS Splitdorf Magneto has proved itself the wonder of the ignition world—a wonder for producing big, fat, sizzling sparks, the kind that puts new life in an engine—a wonder for making an engine more powerful, for making it save gas, and for making it more dependable in daily service.

That is why there is such a great demand for Splitdorf Ignition Specialties for replacements on buses, trucks and tractors where the service demands the utmost in ignition dependability.

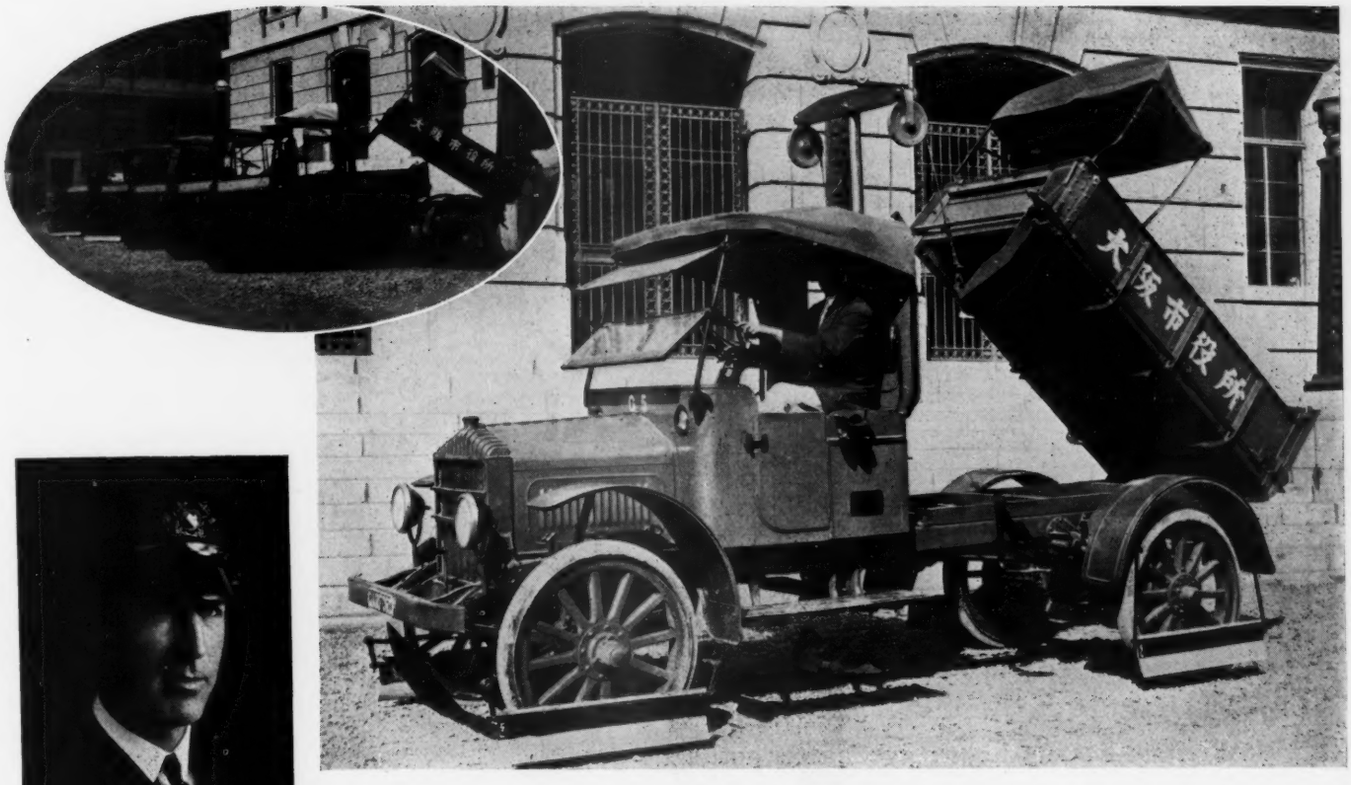
**SPLITDORF ELECTRICAL COMPANY**
Newark, N. J.

TRADE SPLITDORF MARK




*Thirty minutes after installation, Splitdorf Peened Piston Rings are guaranteed to give more power, save oil, save gas, stop fouling of spark plugs and smoking of engine.*

THIS SYMBOL IN ANY ADVERTISEMENT MEANS: SEE "CHILTON AUTOMOBILE DIRECTORY" FOR COMPLETE BUYING INFORMATION





*Gar Wood Says:*
"Summer and winter, in the tropics or the arctic, wherever trucks can run, Wood-Detroit Hydraulic Hoists give the same dependable service."

Gar Wood

# Used the World Over

Not only are Wood-Detroit Hydraulic Hoists the undisputed favorite in America, but in every country where motor trucks are used you find them giving faithful, constant service.

WOOD DETROIT

***Hydraulic Hoists and Steel Bodies***

The basic reason for this world-wide favor is their dependability; their simplicity and freedom from gear trains, and other similar mechanisms liable to breakage, make possible their continued use far from service station and expert care.

***Sales and Service:***

| | |
|---|---|
| New York | Indianapolis |
| Boston | Knoxville |
| Pittsburgh | Cleveland |
| Philadelphia | San Francisco |
| Buffalo | Los Angeles |
| Harrisburg | Seattle |
| St. Louis | Portland |
| Chicago | Denver |
| Minneapolis | Salt Lake City |
| Kansas City | Richmond, Va. |
| Canadian Factory: | Windsor, Ontario |

**Wood Hydraulic Hoist & Body Company**
**7924 Riopelle Street, Detroit, Michigan**

*Built by "Gar" Wood*

THIS SYMBOL IN ANY ADVERTISEMENT MEANS: SEE "CHILTON AUTOMOBILE DIRECTORY" FOR COMPLETE BUYING INFORMATION

EQUIP any truck with a new Stromberg Carburetor—and here's what you get whenever or wherever that truck goes into action—

# MORE MILEAGE MORE POWER EFFICIENCY

Which means just this—you can handle heavier loads, thereby reducing the cost per ton of haulage. And you can do it in less time on less fuel. The result is three savings right where economy counts most: Time—Tonnage—Mileage.

Definite proof of that has put the new Stromberg Carburetor on 55% of all listed truck models, while day after day duplication of perfect performance *keeps* it there.

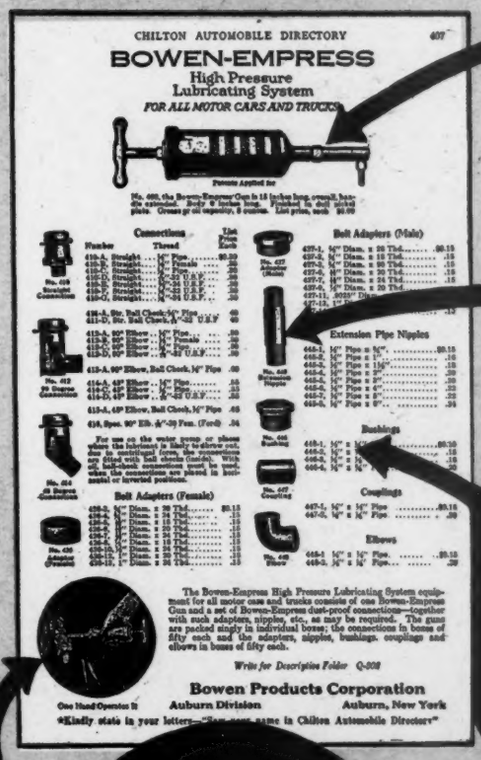
Write today for descriptive matter and be sure to give name, year and model of your truck.

**Stromberg Motor Devices Co.**
**64 E. 25th Street**
Dept. 636 **Chicago**



**New STROMBERG Does it!**
CARBURETOR

THIS SYMBOL IN ANY ADVERTISEMENNT MEANS: SEE "CHILTON AUTOMOBILE DIRECTORY" FOR COMPLETE BUYING INFORMATION


CHILTON AUTOMOBILE DIRECTORY 407

BOWEN-EMPRESS

High Pressure Lubricating System

FOR ALL MOTOR CARS AND TRUCKS

Connections

Bolt Adapters (Male)

Extension Pipe Nipples

Bushings

Bolt Adapters (Female)

Couplings

Elbows

The Bowen-Empress High Pressure Lubricating System equipment for all motor cars and trucks consists of one Bowen-Empress Gun and a set of Bowen-Empress dust-proof connections—together with such adapters, nipples, etc., as may be required. The guns are packed singly in individual boxes; the connections in boxes of fifty each and the adapters, nipples, bushings, couplings and elbows in boxes of fifty each.

*Write for Descriptive Folder Q-202*

**Bowen Products Corporation**

One Hand Operator It Auburn Division Auburn, New York

"Kindly state in your letter—"Same as same in Chilton Automobile Directory"

THE PRODUCT

THE PARTS

DESCRIPTIONS
SIZES
ORDER NUMBERS
PRICES

APPLICATION

# *This* Advertisement Supplies Definite BUYING INFORMATION

To the thousands of buyers in the automotive industry. It is bound into the CHILTON AUTOMOBILE DIRECTORY and is seen by buyers when they are in the market for the product advertised. It shows the product and parts and furnishes detailed data about descriptions, prices, sizes, order numbers, etc.

Buyers can order directly from this condensed catalog data. Have you such an advertisement in the industry's purchasing guide?

Will buyers see *your* product in this book when they are ready to buy?

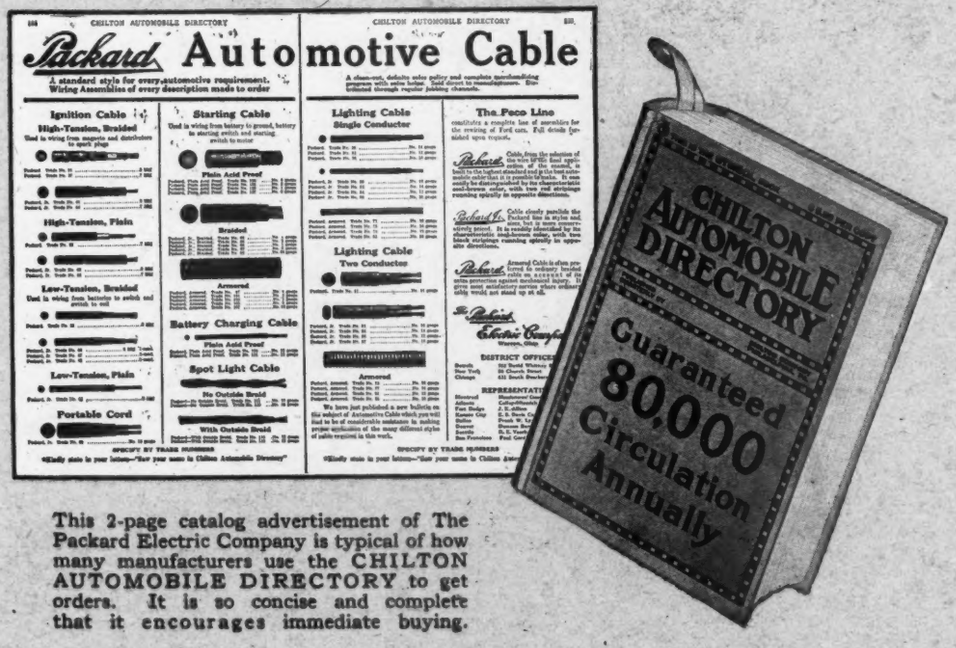
# Go After Orders
## *by Supplying Buyers With Detailed Buying* INFORMATION

In preparing a condensed catalog of your line to be placed in the great standard reference book of the industry remember this one fact—that many an order is placed directly from the purchasing data supplied in this book. Therefore, it is practical to forget long-winded eulogies and trite generalities and get down to hard facts. Show your product. Describe it. State prices, if advisable. Furnish order numbers. Tell where the product can be purchased. By all means list your chief distributors to facilitate quick buying.

If you will put this kind of copy into the CHILTON AUTOMOBILE DIRECTORY results should prove profitable.

**Chilton Automobile Directory**
**Chestnut and 56th Sts.** **Philadelphia**

Every manufacturer who has a page or more catalog copy in the CHILTON AUTOMOBILE DIRECTORY is entitled to display the well-known CHILTON Symbol in his other advertising—to direct buyers to his catalog data in the CHILTON AUTOMOBILE DIRECTORY




This 2-page catalog advertisement of The Packard Electric Company is typical of how many manufacturers use the CHILTON AUTOMOBILE DIRECTORY to get orders. It is so concise and complete that it encourages immediate buying.

# REPUBLIC STAG

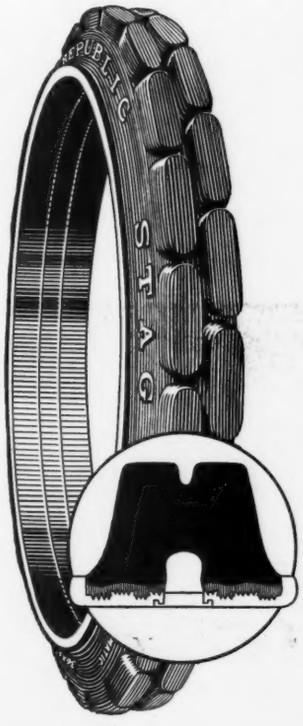
## *Real Profits—Quick Turnover*
## *Satisfied Customers*
## *Well Balanced Inventories*

THAT, "in a nut shell," is the story of Republic Truck Tire Distributors pushing the Republic Stag.

Why?—Two good reasons.

First, the Republic Stag is a 100% tire. It offers to its users the easy riding qualities of a pneumatic, the wonderful durability of Prodium Processed rubber with the traction and non-skid protection of the famous Republic Staggard Tread. Built to fit any type of wheel the Republic Stag has well earned its name of the all-in-one tire.

REPUBLIC STAG
A Solid Pneumatic, Non-Skid Truck Tire with a full contact steel base that fits every type of wheel




Second, the high standard of service set for and by Certified Republic Distributors has drawn trade to the door over which hangs the Republic "Sign of the Eagle."

If your service measures up to Republic standards, get in touch with our nearest branch today. Our franchise assures profits for you.

The Republic Rubber Company
YOUNGSTOWN, OHIO
DISTRICT HEADQUARTERS

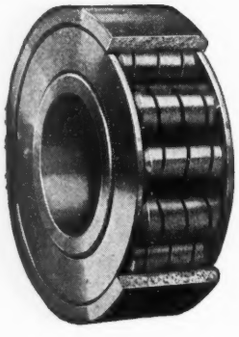
| | | | |
|---|---|---|---|
| New York | Chicago | Philadelphia | Minneapolis |
| Kansas City | Cincinnati | Atlanta | Pittsburgh |

# REPUBLIC TIRES

THIS SYMBOL IN ANY ADVERTISEMENT MEANS: SEE "CHILTON AUTOMOBILE DIRECTORY" FOR COMPLETE BUYING INFORMATION




# HYATT
## *Quiet*
# *Roller Bearings*



The many engineering refinements that are embodied in the new Gardner are the outcome of the earnest desire of its manufacturers to provide a still greater dependability and economy.

Realizing the many advantages that follow the use of Hyatt roller bearings, Gardner engineers specified these bearings in the rear axle construction.

By carrying the gear load at the differential and the car's weight at the hubs Hyatt roller bearings help to assure for Gardner owners a rugged, quiet, trouble-proof rear axle.

HYATT ROLLER BEARING COMPANY
Newark Detroit Chicago San Francisco

Worcester Milwaukee Huntington, W. Va. Minneapolis Philadelphia
Cleveland Pittsburgh Buffalo Indianapolis

THIS SYMBOL IN ANY ADVERTISEMENT MEANS: SEE "CHILTON AUTOMOBILE DIRECTORY", FOR COMPLETE BUYING INFORMATION



# "I Bet These Lamps Will Last 'Till the Old Girl is Scrapped. They'll Doll Her Up Some Too!"

WHEN motor trucks crash into gullies and pound over bumps because the driver cannot see far enough ahead to avoid them, the damage done to chassis, tires and power plant is out of all proportion to what the cost would be of equipping with Dietz "Ranger" Acetylene Headlights—lamps that floodlight the road—that last longer.

These lamps also have no rival in good looks—they help to "doll" up a truck. This makes the driver think more of it and cease treating it like an army tank.

Try out Dietz "Ranger" Acetylene Headlights as a protective necessity—not an expense! For electric lighting use Dietz "Sentinel" Headlights. They have the same substantial construction as the "Ranger."

***Illustrated Booklet, Prices, Etc., Mailed on Request***

***Mr. Dealer:***

*Thousands of motor trucks are using broken or worn-out lamps that give little light and look like wreckage. Why not take advantage of the real market there is for better Truck Lamps like Dietz "Ranger" Acetylene and "Sentinel" Electric Headlights? Let us send you a trial order.*

R. E. DIETZ COMPANY
60 LAIGHT STREET, NEW YORK
***Pioneer Makers of Vehicle Lamps***
***FOUNDED 1840***

JAMES BARNES, Sales Manager Motor Truck Lamp Department
Carter Building, Rochester, N. Y.

# DIETZ "RANGER" ACETYLENE HEADLIGHTS FOR MOTOR TRUCKS

DIETZ LAMPS

THIS SYMBOL IN ANY ADVERTISEMENT MEANS: SEE "CHILTON AUTOMOBILE DIRECTORY" FOR COMPLETE BUYING INFORMATION

# No Real Observant Business Man

Questions or doubts the stability and assured, tremendous future growth of the truck industry.

Shall the thousands of trucks vital to answer the modern and future transportation problem be sold through dealers or through factory branches?

Dealers have been slow to decide and prone to delay decision, fearing to pioneer truck accounts, until manufacturers have established their own selling organizations, proving trucks could be sold, and made the good account unobtainable when dealers finally wished it.

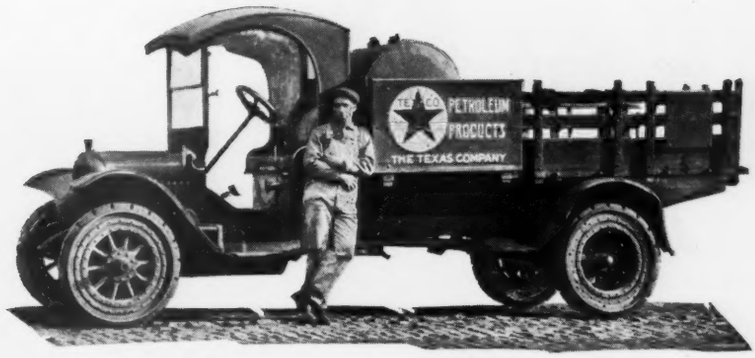
Truck manufacturers of today know that large results cannot be expected or accomplished immediately. They realize the necessity of unlimited help and co-operation toward developing their dealers and branches alike to a permanent and profitable business.

Many successful truck manufacturers have been forced to establish branches before they succeeded. Denby *is* successful and is determined to be more so. Denby prefers having dealers participate in its growth and success, and before authorizing branches in open territory offers its franchise to dealers.

## DENBY MOTOR TRUCK CORPORATION, DETROIT

# DENBY
## MOTOR TRUCKS

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# Mr. Swann is well pleased with Kelly Kats

Mr. J. Q. Swann, agent for the Texas Company at Richmond, Va., writes as follows regarding the service he has received from the Kelly Kats on the truck pictured above:

"The splendid performance of Kelly-Springfield Caterpillar tires on our White stake truck number R-1199 is worthy of mentioning.

"This truck was received Feb. 22, 1921, equipped all around with Kelly Kats. Unfortunately the hubodometer did not work regularly but a conservative estimate of the mileage to date (Jan. 29, 1923) would be at least 29,000 miles. The tires are still in good condition and have a great many miles of service left in them."

Mr. Swann is evidently well pleased with Kelly Kats—and why shouldn't he be? His trucks operate over all kinds of roads in all kinds of weather. To get 29,000 miles from a set of tires under these conditions is in itself very gratifying. But to get this mileage and also traction and cushioning such as Kelly Kats always give is indeed an achievement that should please any truck operator.

It is performances such as this which have won for Kelly Kats the tremendous popularity they today enjoy.

**There are no Caterpillar tires but Kelly Kats**

KELLY-SPRINGFIELD TIRE CO.
250 W. 57th Street, New York, N. Y.




# KELLY KATS

THE TIRES WITH NINE LIVES

# It's Up to You

Your success as truck dealer depends largely on three factors: The quality of the truck you handle. Its operating cost to users. The financial stability of the manufacturer you represent.

As a Schacht dealer you can offer customers *the* quality haulage unit of the motor truck industry. The Schacht Ten Speed Truck—good for ten years or more of service!

Its famous Ten Speed Transmission provides a wide range of gear reductions that gives maximum power and speed—without increasing the engine speed beyond the normal 1000 R. P. M. This makes for economical fuel consumption—longer life of chassis parts—and low operating cost.

For over twenty years we have been *building* (not assembling) Schacht quality trucks. That, and your bank's knowledge of the Schacht Motor Truck Company's financial stability, is your assurance of the enduring worth of the Schacht dealer franchise.

Whether you make the kind of success your ability and aggressiveness entitle you to, depends considerably on the judgment you exercise in taking on a line of trucks. *It's up to you—entirely.*

**THE G. A. SCHACHT MOTOR TRUCK CO.**
**8th and Evans Sts., Cincinnati, Ohio**

**Capacities 1-1½-2-2½-3-4 and 5 Tons**

# Schacht
## Ten Speed Trucks

THIS SYMBOL IN ANY ADVERTISEMENT MEANS: SEE "CHILTON AUTOMOBILE DIRECTORY" FOR COMPLETE BUYING INFORMATION






# *Reserve Strength*

IT'S the capacity for *extraordinary* tasks that makes an automotive unit doubly dependable and long-lived under *ordinary* usage. Shrewd car and truck purchasers are looking into this reserve value as they never did before.

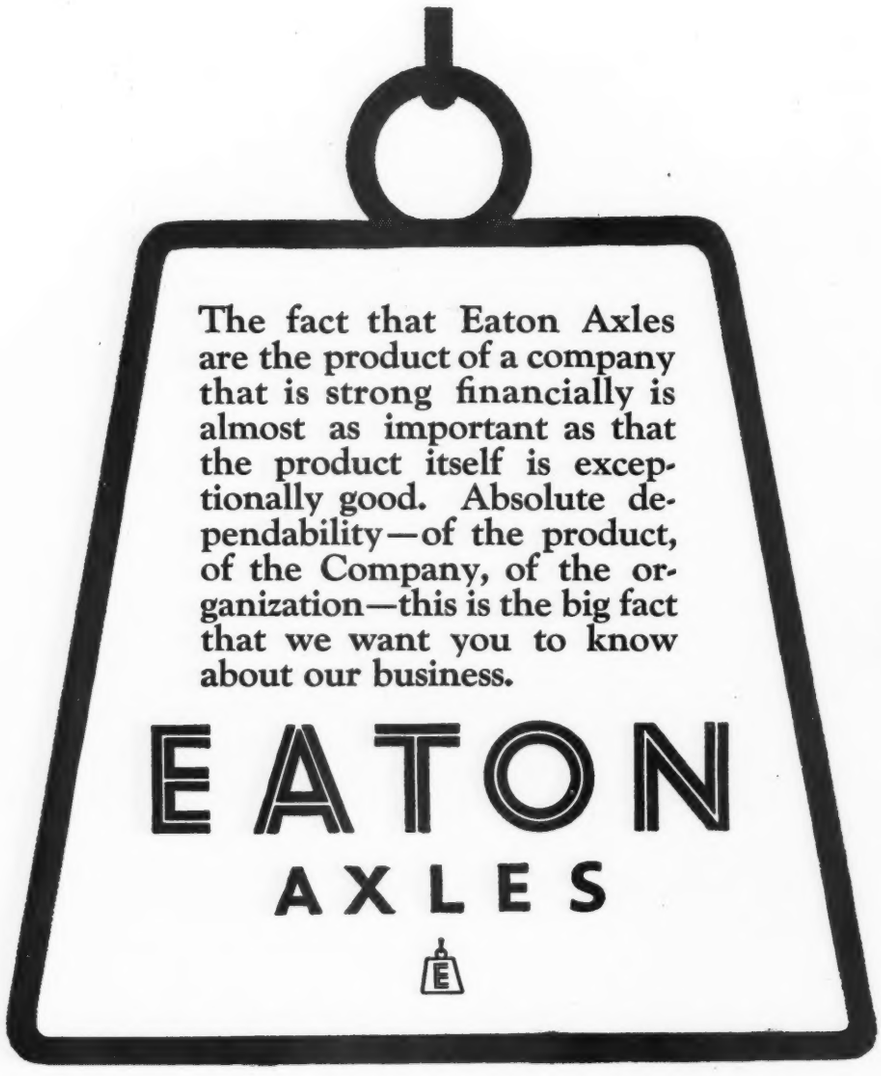
They'll find it in the parts built by Spicer, Sheldon, Parish or Salisbury. And that goes a long way toward closing the sale.

Sheldon Axle and Spring Co. - Wilkes-Barre, Pa.
Parish Mfg. Corp. - Reading, Pa., and Detroit, Mich.
Salisbury Axle Co. - - - Jamestown, N. Y.
Spicer Mfg. Corporation - South Plainfield, N. J.

C. A. DANA, *President*

THIS SYMBOL IN ANY ADVERTISEMENT MEANS: SEE "CHILTON AUTOMOBILE DIRECTORY" FOR COMPLETE BUYING INFORMATION

# Eaton *Specialized* Units




## The EATON AXLE & SPRING

THIS SYMBOL IN ANY ADVERTISEMENT MEANS: SEE "CHILTON AUTOMOBILE DIRECTORY" FOR COMPLETE BUYING INFORMATION

# for *Better* Cars and Trucks




COMPANY ~ ~ ~ Cleveland

THIS SYMBOL IN ANY ADVERTISEMENT MEANS: SEE "CHILTON AUTOMOBILE DIRECTORY" FOR COMPLETE BUYING INFORMATION



# The Major Share of Your Local Truck Tire Business

The business of selling and servicing truck tires has rapidly expanded in recent years, in an effort to keep pace with the lively growth in the volume of truck freight.

Years ago the dealer who stocked only solid tires was able to handle the needs of every customer.

But since then the truck has been put to use in many new and varied fields of commerce and industry. Today tons of bulky merchandise, fragile produce and even passengers are transported this quick, economical way.

Now, the most successful dealers are those who are in a position to supply these new and growing truck tire needs.

The 800 and more such Firestone dealers who handle the complete line of Firestone Truck Tires—with a tire for every road, load and condition of service—are serving customers in every field of trucking, and attracting a major share of the truck tire business in their communities.

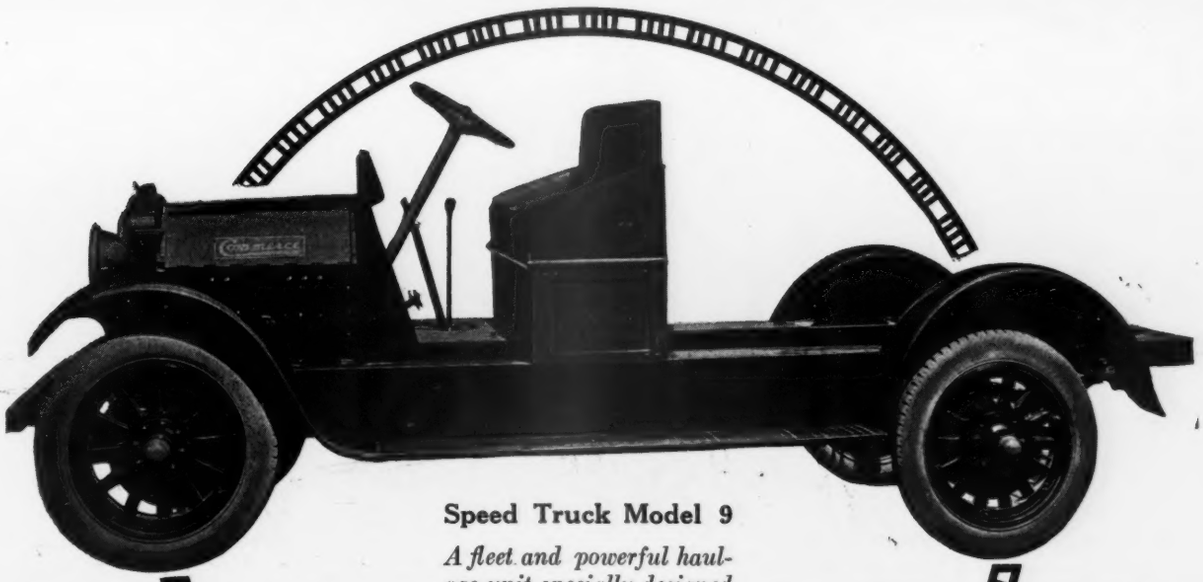
The Mark of Quality

*Most Miles per Dollar*

# Firestone

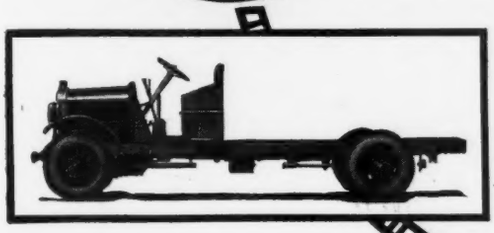
**TRUCK TIRES AND TRUCK TIRE SERVICE**

THIS SYMBOL IN ANY ADVERTISEMENT MEANS: SEE "CHILTON AUTOMOBILE DIRECTORY" FOR COMPLETE BUYING INFORMATION



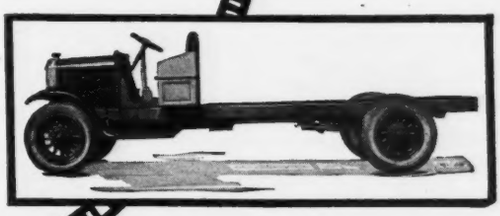
**Speed Truck Model 9**

*A fleet and powerful haulage unit specially designed to withstand the gruelling grind of speed truck operation. 1500 to 2500 pounds payload capacity. A high-class chassis that includes many nationally known parts.*



**Model 14—1½ Ton Capacity**

*The size that satisfactorily meets most haulage requirements. A specialized truck, on the units of which many buyers are thoroughly sold.*



**Model 25—2½ Ton Capacity**

*This low-operating cost 2½ ton job is everywhere conceded to be the finest specialized vehicle on the market. A big money-maker for Commerce dealers.*

# Sign Up With a Seasoned Truck Organization

The Commerce Dealer Franchise includes considerably more than an exceptional opportunity to make substantial profits.

It is also a pledge that your business, as it steadily increases, is yours to have and hold for a lifetime—for this company is in business to stay.

This is a *seasoned* organization—matured in merchandising experience, in fundamentals of righteous policy toward Commerce dealers, in financial integrity.

Commerce Trucks are not just another line of motor vehicles. They are the perfected development of an organization of motor truck specialists with an experience of over twelve years.

Pneumatic tires, electric lighting and starting devices, the cast tank radiator with removable core, and other sound improvements, were first adopted by Commerce in the truck field. *This is a live as well as a seasoned organization.*

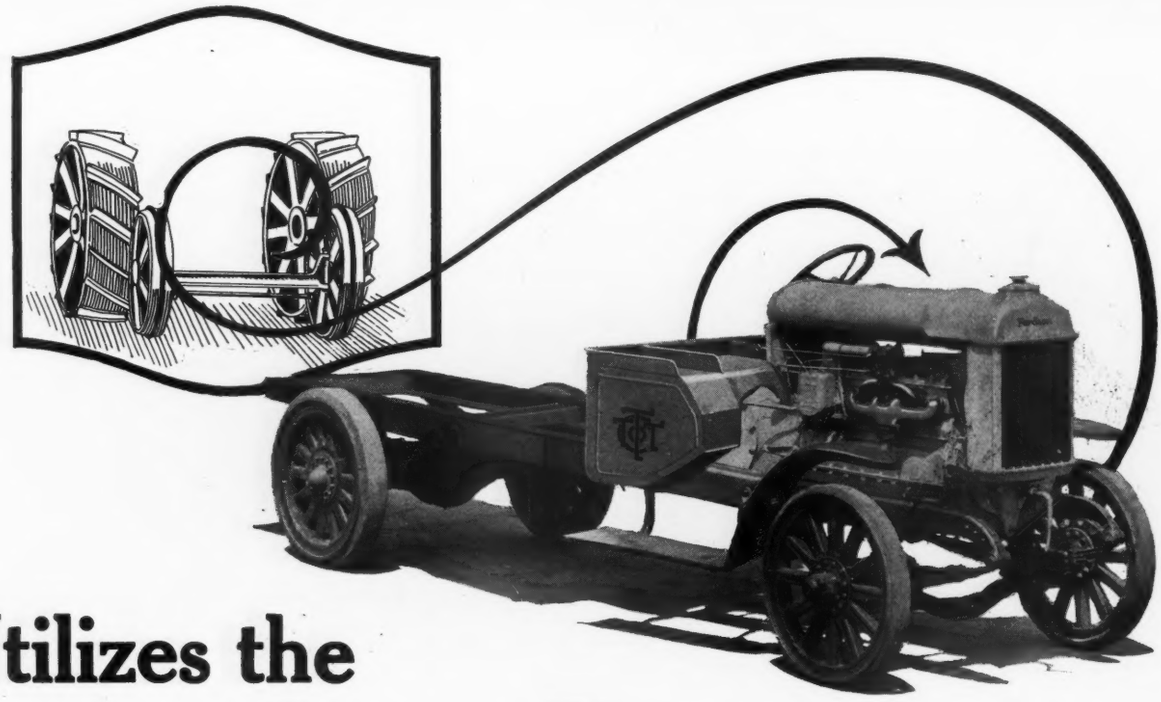
If you think you can qualify for a Commerce Franchise, tell us something about yourself.

*Write Now*

**COMMERCE MOTOR TRUCK CO., DETROIT, MICH.**

Commerce TRUCKS

THIS SYMBOL IN ANY ADVERTISEMENT MEANS: SEE "CHILTON AUTOMOBILE DIRECTORY" FOR COMPLETE BUYING INFORMATION



# Utilizes the Fordson Power Plant

By using a chain and pulley or any other simple hoisting device, your customer can easily transfer his Fordson power plant to the Toppins Truck Unit. *He will then have a high-grade 2½ ton worm or chain drive truck.*

The whole operation can be finished as quickly as it takes to get a team of horses ready and harnessed.

Your customer will thus have a Fordson for field operations—and a powerful, heavy-duty truck to haul his crops to market, at an 18-miles-per-hour speed.

Both together will cost him approximately half of what he would have to pay for any good make of truck.

As the Toppin Truck Unit operates on kerosene, your customer's fuel bill will be half of what gasoline truck owners pay.

His upkeep cost for the Fordson plant power will of course be less than for that of the average heavy-duty truck. He will get *prompt* Fordson service—anywhere, anytime.

UTILIZES THE FORDSON POWER PLANT

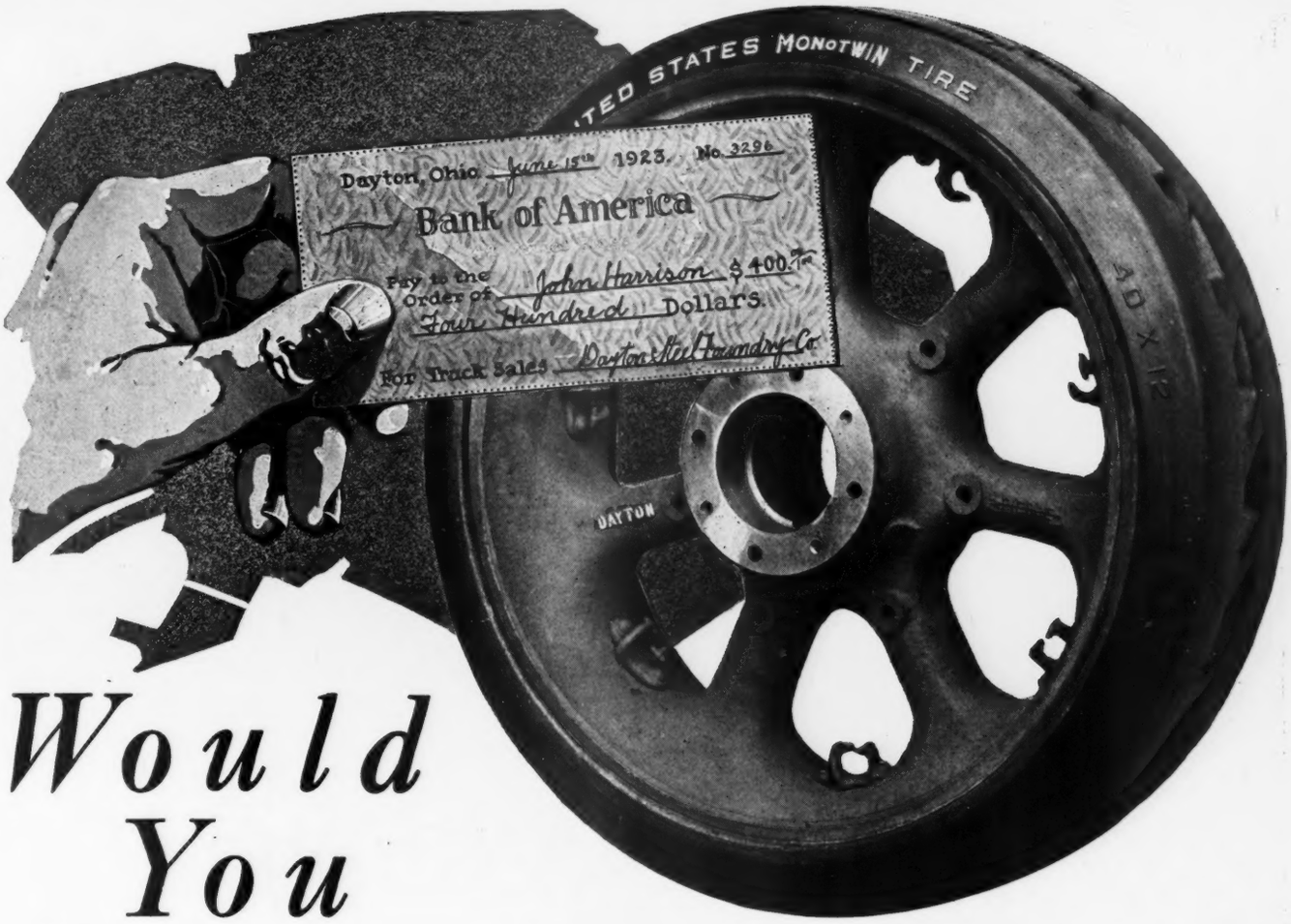
**Toppins Truck Unit**

## Dealers—Distributors

The above are just a few of the many exclusive advantages which enable your customers to have both a Fordson and a high-class 2½ ton truck for half the price of any good truck of similar capacity. *A real proposition for real merchandisers. Write for full details.*

**TOPPINS TRACTOR TRUCK COMPANY**
MILWAUKEE, WIS.

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# *Would You Refuse This Check?*

## It Represents the Cost of a New Set of Tires

That Dayton Steel Wheels increase the life of tires is not theory but fact—proved by large fleet owners who have kept accurate records of operating costs. The reasons for this saving are obvious when you stop to think about them.

There can be no variation in Dayton Steel Wheels. They are not "built up"—they never develop "flats." No matter whether it is wet or dry, they remain absolutely true in diameter. Consequently tires are not subject to ruinous blows upon every revolution of the wheel.

Dayton Steel Wheels also act as conductors of heat, which prevents the tires from being overheated, thus eliminating much deterioration from that source.

[Quality, not price, has induced nearly all leading truck makers to furnish Dayton Steel Wheels as regular equipment. Specify them on your next order.]

$1000.00 Prize Contest for best practical suggestions from truck drivers and fleet owners—write for details.

**THE DAYTON STEEL FOUNDRY CO., Dayton, Ohio**

# Dayton
## Steel Truck Wheels
PATENTED

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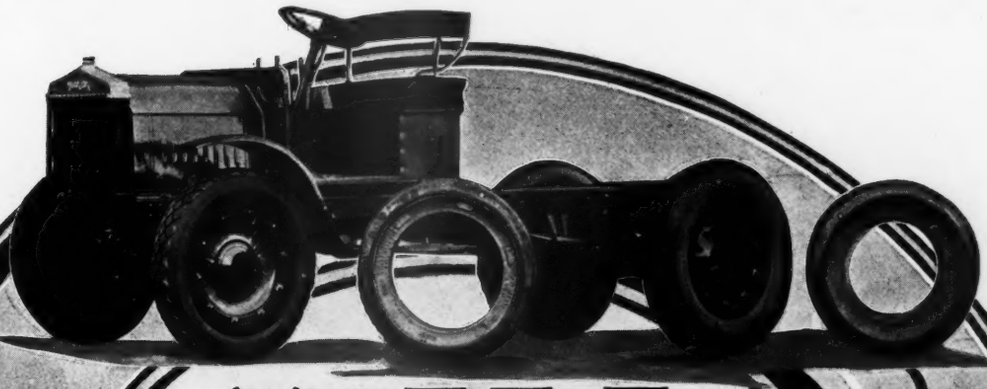
THE SPRING IS THE THING

Mather Springs
Scientifically
Heat Treated

The
Mather Spring Co.
Toledo~Ohio.

MATHER
SPRINGS

THIS SYMBOL IN ANY ADVERTISEMENT MEANS: SEE "CHILTON AUTOMOBILE DIRECTORY" FOR COMPLETE BUYING INFORMATION



# WILL
# SOLID TIRE ADAPTER

Allows Use of Solid or Pneumatic Tires without Changing Wheels

## *Sharply Reduces Truck Operating Costs*

When your customer's pneumatic tire equipt truck is speeded over rutty, frozen or extremely hot roads, rut-cuts and blow-outs, quickly send the pneumatics to the scrap heap.

Solid tires do not afford sufficient traction for ploughing thru muddy, sandy or snow-covered roads, and these conditions, when equipt with solids severely strains the chassis mechanism, which means excessive repair bills.

Will Adapters enable your customers to use either pneumatics or solids—as changing road conditions indicate.

*In less than 30 minutes the Adapter-equipt truck can be changed to pneumatics, or the reverse—without changing wheels.*

Hollow cast, properly ribbed for strength and extremely light in weight, Adapters come in all sizes for all types of tires.

Equip your customer's truck with Adapters—for substantial profits.

**WILCOX TRUX, Inc.**
**Minneapolis, Minn.**

### Distributors

*The market for Adapters embraces every truck in service. And there is no competition to meet. Here's a real opportunity for live business men. Wire or write at once for details of our distributorship proposition.*

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IN the first three months of this year, GMC sales passed all previous records—not excepting the famous prosperity of 1920.

This means two things to every motor truck dealer.

GMC dealers are making money and the public is buying GMC trucks in greater numbers.

There is an opportunity for a GMC franchise in any community that has no representative. Get your name on file.

GENERAL MOTORS TRUCK COMPANY—*Pontiac, Michigan*
*Division of General Motors Corporation*

General Motors Trucks

GMC

THIS SYMBOL IN ANY ADVERTISEMENT MEANS: SEE "CHILTON AUTOMOBILE DIRECTORY" FOR COMPLETE BUYING INFORMATION



*A fleet of Indiana trucks operated by the South Bend Motor Bus Co. equipped with U. S. Nobby Pneumatic Truck Tires.*




THE fleet operator who has worked on the best basis of profit in bus transportation has sifted down his reasons for using U. S. Nobby Cords to these three elements—

To keep down the running cost per passenger mile.

To build public confidence in the comfort, safety and reliability of the line.

To guard against damage and accident expenses.

The Nobby Cord has proved itself to be a great road gripper.

Along with its sureness, it gives the easy riding comfort of the true pneumatic, cushioning the car's mechanism as well as its passengers.

Remember—The Nobby Cord is not an oversize automobile tire, but a *specially designed cord truck tire* scientifically suited to heavy load, high speed work.

# U.S. Nobby Truck Tires are Good Tires

United States Rubber Company, New York

Trade Mark

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# United

## Heavy Duty Road Builder

WHEN a man steps out to buy a truck he does and should do it with a steely determination to make the very best use of the process of elimination; to make cold-blooded comparisons and to finally buy the truck that will, without doubt, show him the most profit under years of service, with the least expenditure.

It is not a matter of whim, nor of considering a manufacturer's array of "Slogans," "Promises" and "Reasons Why."

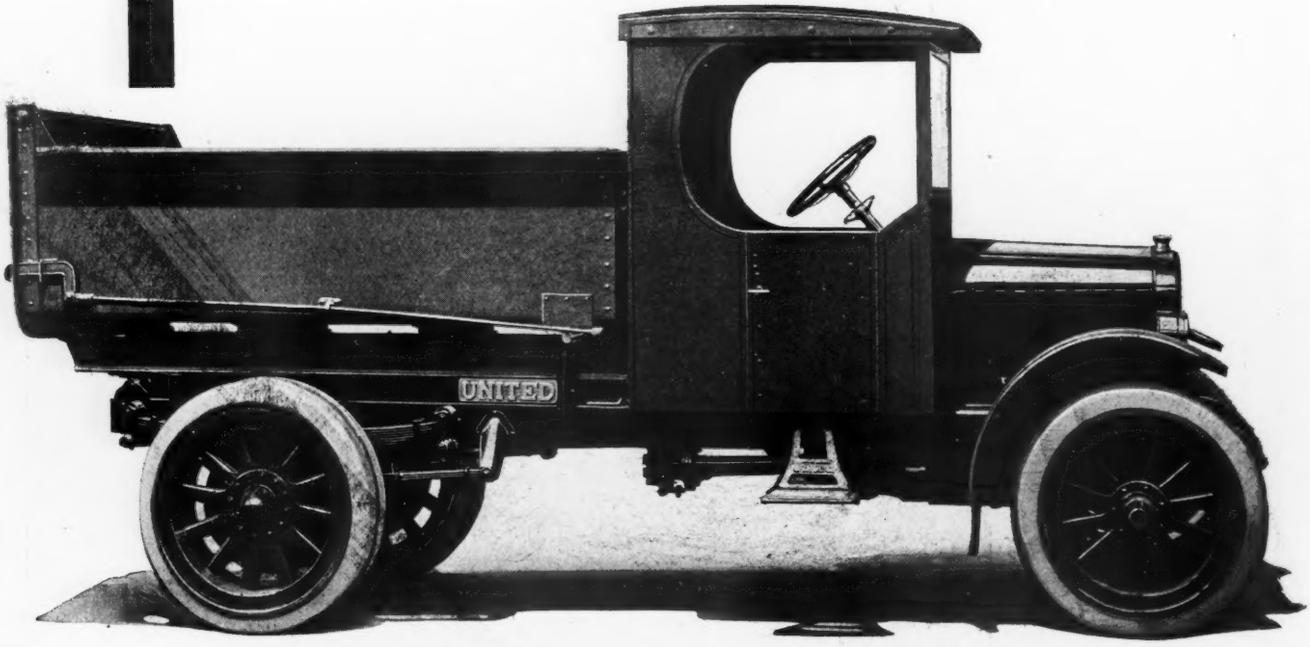
The manufacturers of the United line have stepped out with the same kind of a determination to meet any and all competitors cold bloodedly—on a strictly cost for cost, test for test, service for service and specification for specification basis.

Every United Heavy Duty Road Builder, as well as every other truck of our complete line, *must* live up to the past performances.

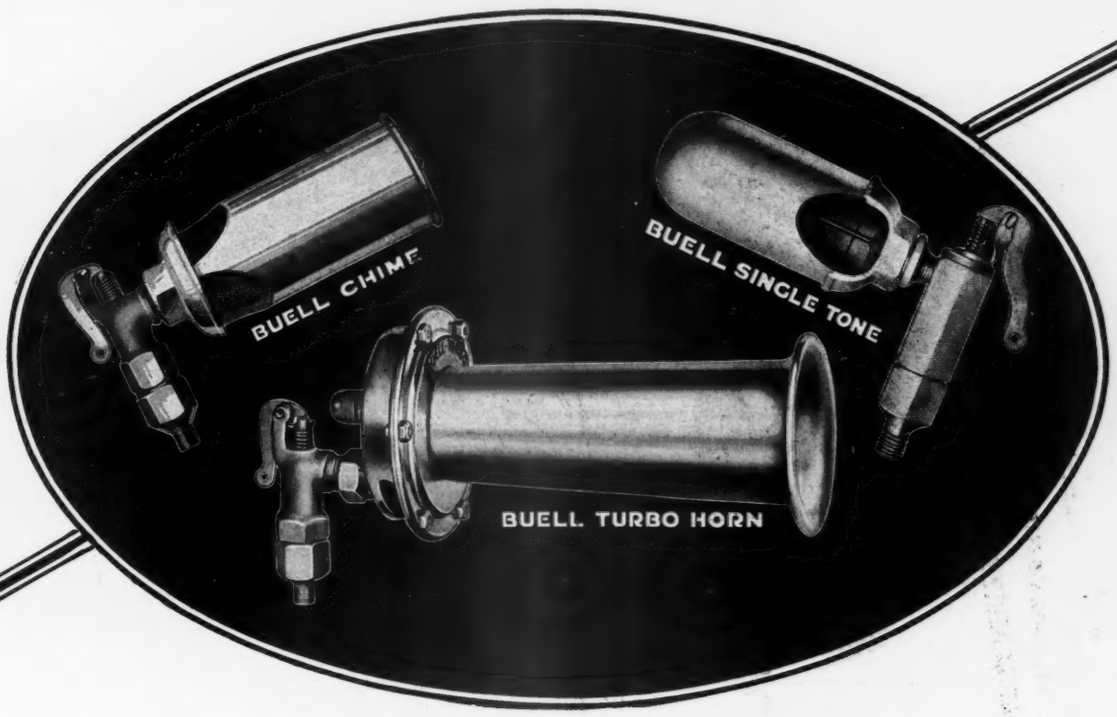
Every United dealer *must* be a man who can make you a thoroughly satisfied customer.

**United Motors Products Co.**

**Grand Rapids, Michigan, U. S. A.**




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# Truck Buyers Everywhere

specify BUELL SIGNALS for safety's sake.

The infallibility of BUELL operation, the strength of its warning note—the durability and long life of the signal itself, plus its absolute lack of repairs or readjustments *for years at a time* —tell the story of its popularity.

BUELL WARNING SIGNALS have been specified as standard or optional equipment on over 70 automobiles and trucks.

## Keep Owners Satisfied

Because the BUELL SIGNALS stand up and work economically and reliably under the hardest kind of service—day after day, year after year—the BUELL owners remain satisfied.

Several new and efficient types of BUELL SIGNALS have been added to the regular BUELL LINE. The full particulars will be sent upon your request.

**BUELL**
**SIGNALS**
**WARN EVERY TIME**

BUELL MANUFACTURING COMPANY

Cottage Grove Avenue at 30th Street, Chicago, Illinois

THIS SYMBOL IN ANY ADVERTISEMENT MEANS: SEE "CHILTON AUTOMOBILE DIRECTORY" FOR COMPLETE BUYING INFORMATION



# To Serve You—

**This Symbol is used by advertisers to convey to you the message that they have placed detailed information about their products in current issue of the standard reference book of the industry, CHILTON AUTOMOBILE DIRECTORY.**

**The Symbol has been adopted as the quickest and simplest method of telling you that purchasing information has been placed in the CHILTON AUTOMOBILE DIRECTORY for your benefit.**

**Its appearance in any advertisement means that you can obtain the specific details about the product advertised, such as sizes, prices, specifications, by referring to the manufacturers' catalog data in CHILTON AUTOMOBILE DIRECTORY.**

## Chilton Automobile Directory

*(Published Quarterly)*

**Chestnut and 56th Streets** **Philadelphia, Pa.**




# Ready Day or Night

Motor service without limitations. Motor service as ready for the night haul as the long daily grind—motor service that is speedier, surer, safer—service that is backed by an *electric lighting, starting and ignition organization* of nation-wide proportions.

Buyers of trucks today want this type of protection. They want economy and dependability; they want trucks they can use when they want them.

What they want, Westinghouse supplies—dependable starting, lighting and ignition equipment, and a chain of 350 service stations strategically placed for the greatest convenience of owners and manufacturers alike.

WESTINGHOUSE ELECTRIC & MANUFACTURING COMPANY
*Automotive Equipment Department - Sales and Service Headquarters:* 82 Worthington Street, Springfield, Mass.

**Westinghouse**

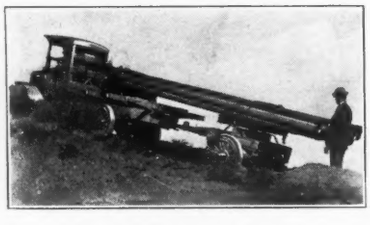
THIS SYMBOL IN ANY ADVERTISEMENT MEANS: SEE "CHILTON AUTOMOBILE DIRECTORY" FOR COMPLETE BUYING INFORMATION



# Warner Trailers Reduce Hauling Costs 50%



Warner Power Transmission, Semi-Trailer Type



Two-Wheel Heavy-Duty Pole Trailer

**A Complete Trailer Line**

Two-Wheel Commercial Type High Speed Auto Trailer
1250 to 1500 lb. capacity.

Two-Wheel Heavy-Duty Type
1½ to 5½ ton capacity.

Four-Wheel Heavy Duty Type
2 to 7½ ton capacity.

Power Transmission Semi-Trailer Type
10 to 15 ton capacity.

Drop and Straight Frame Semi-Trailer Type
2½ to 11 ton capacity (For ordinary transportation service).

The successful truck operator uses Warner trailers to reduce his hauling costs. He has used them for years. These operators — contractors, engineers, transport and road builders — the largest users of trailers — have given much thought on their hauling problems. They have learned by hard experience that inefficient hauling equipment is costly.

Therefore, they use the best hauling equipment obtainable — the Warner trailers. They know that Warner trailers will accomplish three things — increase volume tonnage, speed up deliveries and lower operating costs — all vital factors in the hauling problems of today.

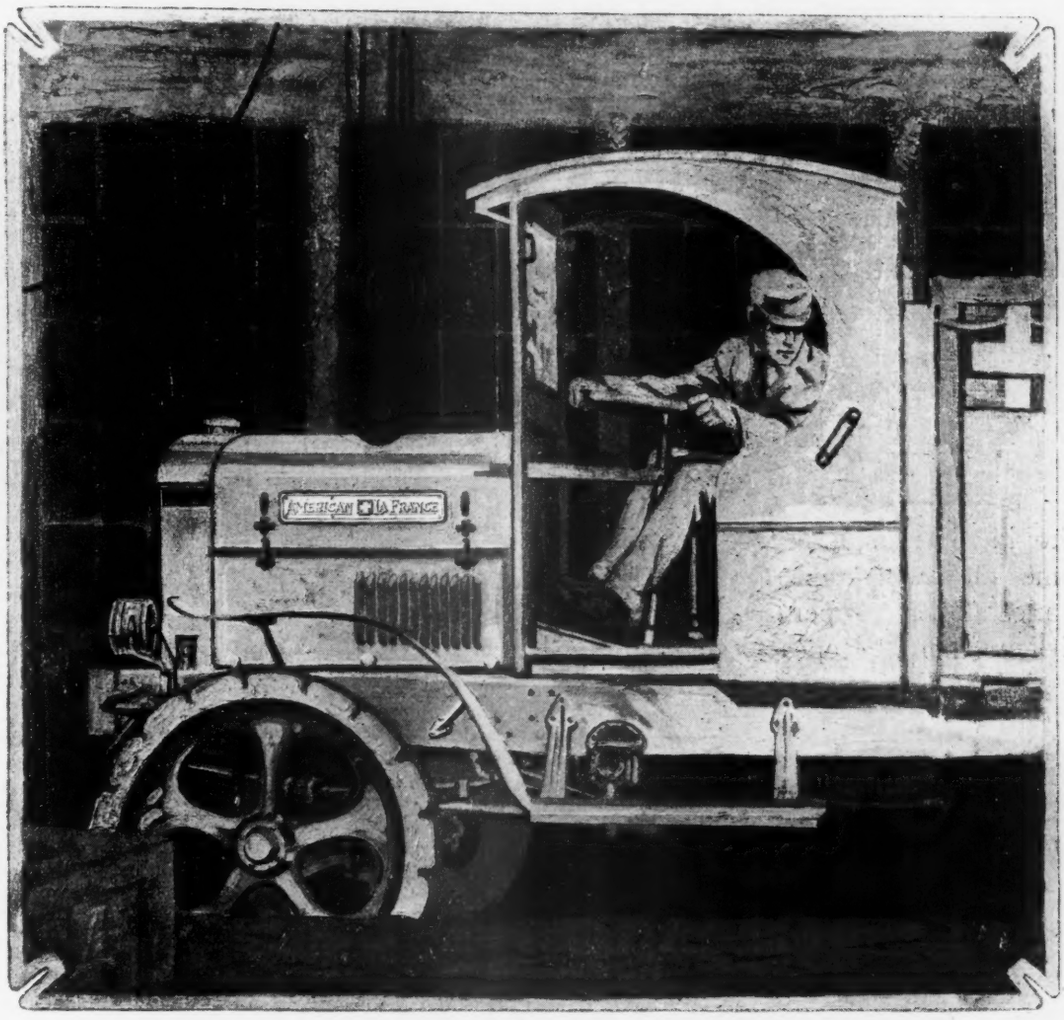
The Warner trailers are designed and built by the best truck and trailer engineers in the country, who have combined in these trailers every feature necessary to make it fulfill to the utmost every need and requirement.

Let our engineers, who are experts on hauling problems, give you specific data and figures on your hauling costs. Write today, the advice is free.

WARNER
HEAVY DUTY
TRUCK TRAILERS
TWO AND FOUR WHEEL TYPES

**WARNER MANUFACTURING CO.**

**Beloit Dept. 10 Wisconsin**




# AMERICAN-LA FRANCE COMMERCIAL TRUCKS

**Are manufactured entirely by us. Our own engineers have made a painstaking study of motor truck design best adapted to economical haulage.**

**Manufacturing methods are of the same high standard as those employed to produce American-LaFrance Motor Driven Fire Apparatus that protects 90% of American cities from fire loss.**

**Specification catalogs of 3½ and 5 ton models will be sent on request.**

**American-LaFrance Commercial Trucks are built only by**

## AMERICAN-LAFRANCE FIRE ENGINE COMPANY, INC.

COMMERCIAL TRUCK FACTORY
**BLOOMFIELD, N. J.**

NEW YORK OFFICE
**FISK BLDG., BROADWAY AT 57TH ST.**

FIRE APPARATUS FACTORY. ELMIRA, N. Y.

# Hiflex and Radio

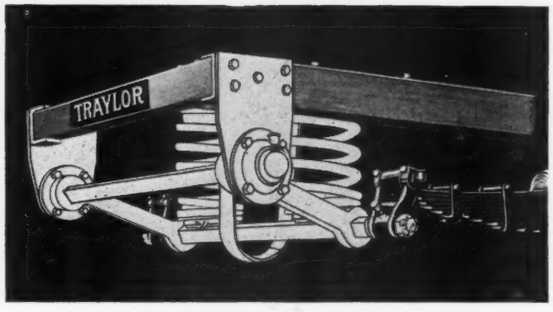
## TWO OF THE MOST POPULAR AND IMPORTANT INVENTIONS OF THE DAY

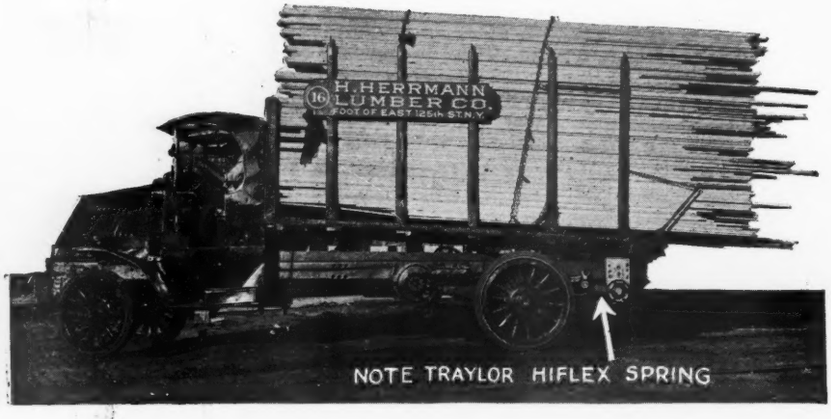
**HIFLEX is Important Because It is Saving Truck Owners Time and Money in Repairs and Adding Miles to the Lives of Their Trucks**

**HIFLEX Will Do the Same for You**

## FLEET OWNERS

who have tried HIFLEX invariably come back with repeat orders; they cannot afford to operate their trucks without them. Repeat orders surely prove HIFLEX is meeting our claims.




HIFLEX consists of two giant helical springs and a hinge. These springs are prevented from acting independently, as the connecting hinge compels them to function together. Instead of one or the other absorbing impacts independently, the springs combine forces and work together regardless of which side the impact occurs. By thus combining the action of these two powerful coil springs, the rigid hinge provides stability, floats body and load; checks and absorbs vibration.

***Dealers Write for Our Sales Proposition***

# Traylor Engineering & Manufacturing Co.

## ALLENTOWN, PENNA.

***Factory Branches:***

**PHILADELPHIA: 921 Thompson St.** **NEW YORK CITY: 218-226 Spring St.**

TRAYLOR
IT FITS THE ROAD
FOR MOTOR TRUCKS
HIFLEX
AND MOTOR BUSSES
SPRING SUSPENSIONS

THIS SYMBOL IN ANY ADVERTISEMENT MEANS: SEE "CHILTON AUTOMOBILE DIRECTORY" FOR COMPLETE BUYING INFORMATION

# SHULER FRONT AXLES

*for*

MOTOR BUSES
MOTOR TRUCKS
TRAILERS &
TRACTORS



CONCENTRATION on one product by experienced engineers and efficient mechanics—and that's what we have in the Shuler organization—can result in only one thing—*a distinctly superior front axle.* This major unit is too important for any manufacturer to decide upon anything but the best that the market offers. Correspondence is invited from progressive manufacturers who are disposed to give the front axle the careful consideration that its importance demands. Our engineers are at your service.

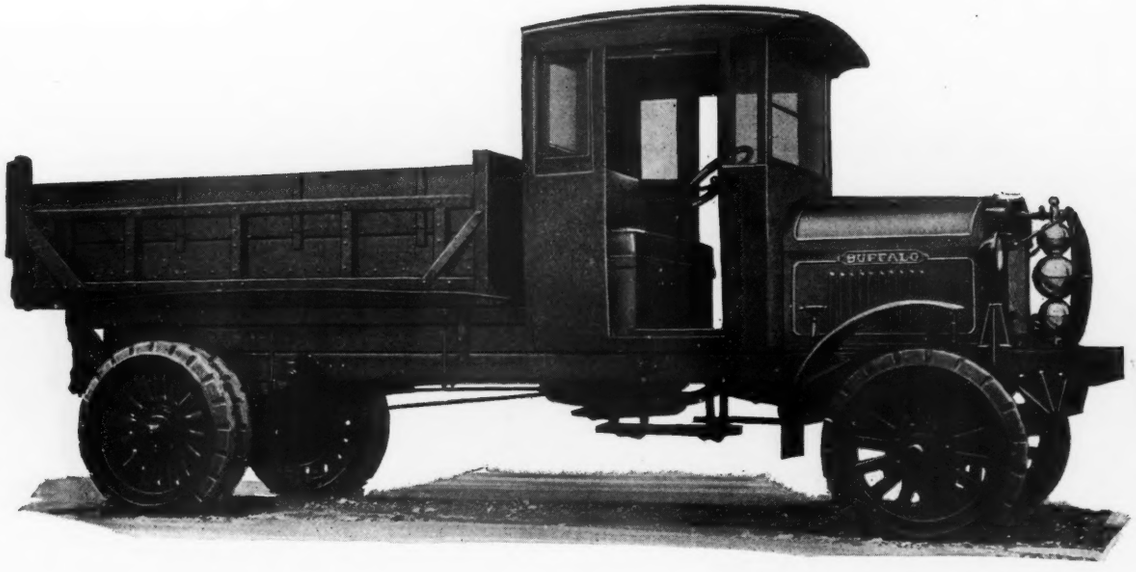
*Complete Information on Request*

## SHULER AXLE COMPANY, Inc.

**3003 Jones Street, Louisville, Kentucky, U. S. A.**

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# "BUFFALO" TRUCK




# THE TRUCK THAT SELLS
## (DEALERS WANTED)



## Buffalo Truck and Tractor Company

*Factory:* Clarence, N. Y. *Office:* 1487 Main St., Buffalo, N. Y.

THIS SYMBOL IN ANY ADVERTISEMENT MEANS: SEE "CHILTON AUTOMOBILE DIRECTORY" FOR COMPLETE BUYING INFORMATION

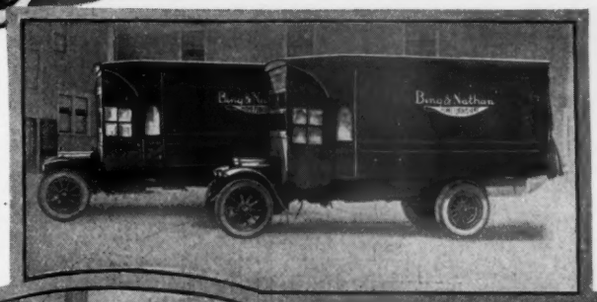
# More Department Store Fleets Swing to Generals—Why?



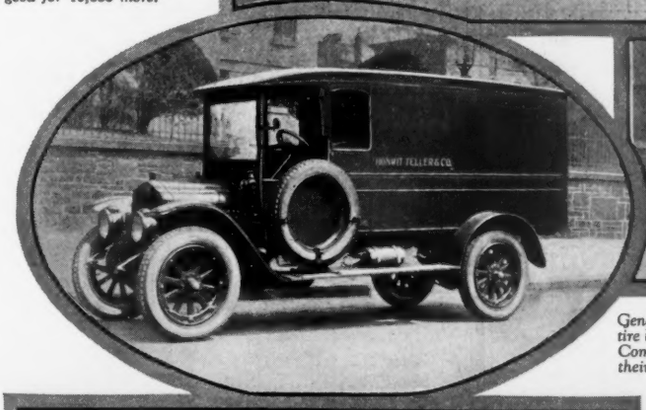
*A big one, isn't it? It belongs to the John B. Stetson Company's fleet at Philadelphia and, as you'll notice, there's a General on each wheel.*



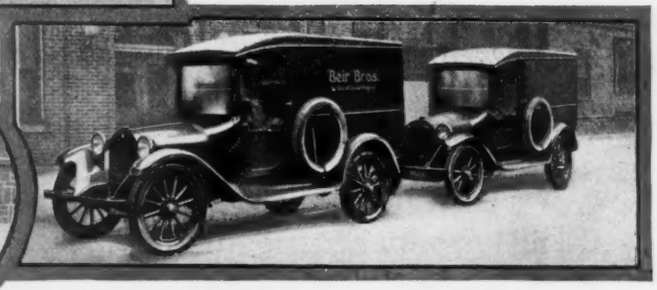
**—goes a long way to make friends**



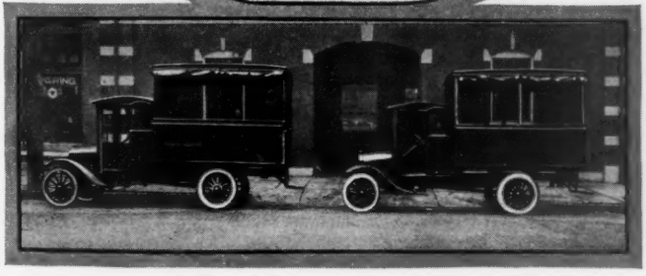
*Two of C. J. Heimerle's General-equipped trucks which make furniture deliveries for Bing & Nathan, prominent department store of Buffalo. Mr. Heimerle writes: "Two of these Generals have gone over 24,000 miles—and are still going strong. Four others have gone 19,000 miles and look good for 10,000 more."*



*Generals pile up the miles and keep tire bills down for Bonwit Teller & Company, of Philadelphia. One of their delivery trucks is pictured here.*



*For Beir Brothers, prominent department store at Niagara Falls, Generals assure steady, dependable service at low cost per mile. Two of their trucks, both General equipped, are shown here.*



*Famous-Barr, one of the leading department stores of St. Louis, swung to Generals after testing them in direct competition with other makes. Two of their delivery trucks, equipped with Generals, are shown here.*



*The Union Transfer Co., who handle a great deal of delivery work for stores at Tampa, Fla., write: "Our 10 trucks are all equipped with General Tires, and we intend to continue using them."*

THE

# GENERAL

## CORD TIRE

THE GENERAL TIRE AND RUBBER COMPANY, AKRON, OHIO, U. S. A.

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# Recommended by All Leading Manufacturers



*Cutaway View of Vertical Hoist showing screw jack principle of operation and automatic lubricating device.*

OUR Mechanical Dump Truck Hoists, in vertical and horizontal types, have been quickly accepted as a means toward faster, better truck dumping. All leading truck manufacturers use and recommend Van Dorn Hoists and Bodies.

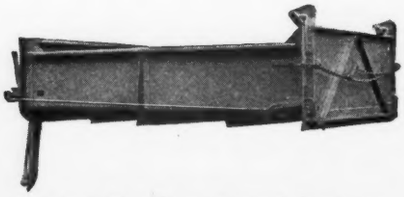
Truck users, distributors, and equipment dealers alike should have full information as to the mechanical principle and many important advantages of Van Dorn Mechanical Hoists.

Our new catalog covers this fully. It also illustrates and describes Van Dorn Dump Bodies for all purposes. Write for your copy—gladly sent free on request.

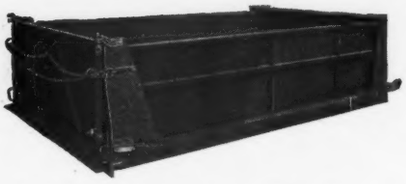
***Dealers, write for information regarding our agency proposition.***

**THE VAN DORN IRON WORKS COMPANY**
**CLEVELAND**

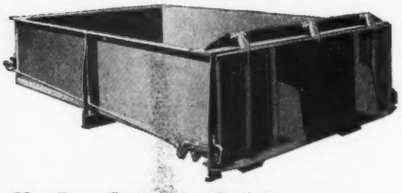
*BRANCHES:*
*Chicago*
*Boston*
*Long Island City*
*Philadelphia*
*Washington*
*Providence*



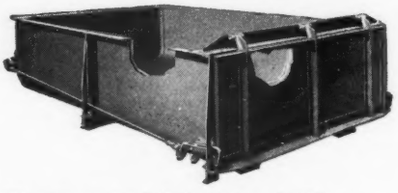
Standard Van Dorn Pressed Steel Body; a body of great strength, built to withstand the hardest service.



Van Dorn Combination Dump Body; sides easily removable to make platform body.



Van Dorn Coal Body. Coal chute can be placed in side for side dump jobs.



Van Dorn Asphalt Body; a double shell body with insulation of asbestos between walls to hold the heat.



Van Dorn Garbage Body; wood bumper rail and water tight sump. New York City is using 332 bodies of this type.

# Van Dorn

**MECHANICAL DUMP TRUCK HOISTS**
**BODIES — FRAMES — PRESSED PARTS**

THIS SYMBOL IN ANY ADVERTISEMENT MEANS: SEE "CHILTON AUTOMOBILE DIRECTORY" FOR COMPLETE BUYING INFORMATION




# Greater Truck Speed With Safety

SERVICE Motor Trucks again lead the crowd in the adoption of improved design.

This time Service is first to adopt the *counterbalanced crank-shaft.* This engine improvement practically eliminates vibration and permits high engine speeds without danger. It means greater engine durability in spite of careless drivers.

Wise dealers seek the Service dealer contract because Service anticipates truck buyers' demands and enables them to close the business with the minimum effort against any competition. The *counterbalanced crank-shaft* will prove a tremendous selling asset.

Counterbalanced crank-shaft is a big feature of the Service Power Plant. Insures accurate balance, a quiet engine, eliminates vibration and wear, and protects the engine against careless drivers. Additional features are: *Heat-radiating bearings, centrifugal air cleaner, V-type fan belt, automatic take-up* on front trunnion support, and oversize water jackets insuring efficient cooling.

**Service Motors, Inc.**
**Wabash, Indiana**

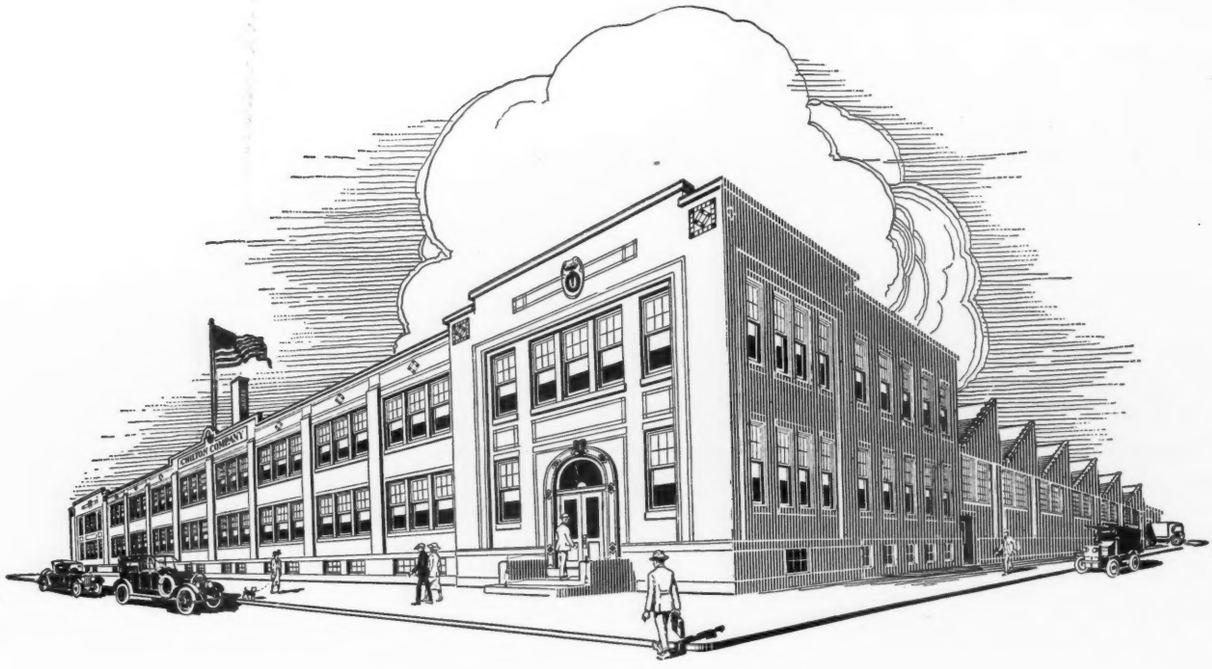
**Write for complete facts about the Service franchise.**

**A complete line; speed truck for fast delivery and heavy duty trucks from one to six tons**

Service
MOTOR TRUCKS
Scientifically Cushioned

THE PYRAMID OF SERVICE

THIS SYMBOL IN ANY ADVERTISEMENT MEANS: SEE "CHILTON AUTOMOBILE DIRECTORY" FOR COMPLETE BUYING INFORMATION



# New Home of the Chilton Company

The growth of the publications issued by the CHILTON COMPANY has necessitated a removal to new and larger quarters at Chestnut and 56th Streets.

The new building, shown above, was designed and built for our business, and provides a great increase in floor space and facilities. The plant is of daylight construction, having a saw-tooth roof which assures floods of daylight at all times. The arrangement of the mechanical departments is ideal and it is unique among printing plants in the East.

All of this establishment is devoted solely to the production of our six publications, having a total of only 46 issues a year, and to the service given in connection therewith.

Our friends in the automotive industry are invited to visit the plant any time they may be in Philadelphia. The latch string is out, and a cordial welcome assured.

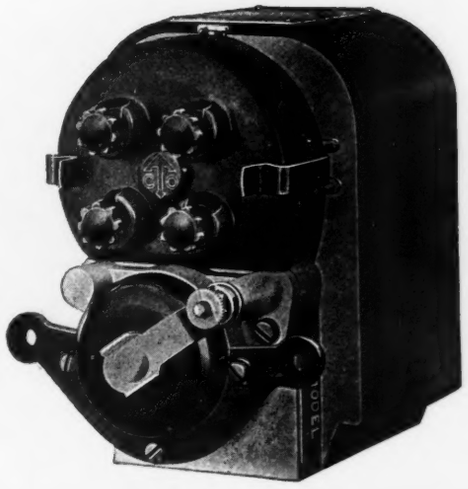
## CHILTON COMPANY

**Chestnut and 56th Sts.** **Philadelphia**

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# TEAGLE

## UNFAILINGLY FIRES POOREST GRADES OF FUEL



The test of a magneto is whether it will properly fire poor grades of fuel.

That's why you will do well to standardize on the Teagle Magneto.

It delivers hot sparks at low speeds; unfailingly fires even the *lowest* grades of fuel; provides positive and prompt starting in zero weather.

Note the simple design—the use of a minimum number of parts—the generously proportioned units—and you realize why the Teagle is the magneto you will ultimately specify.

*Why not now?*

**THE TEAGLE COMPANY**

**CLEVELAND** **OHIO**

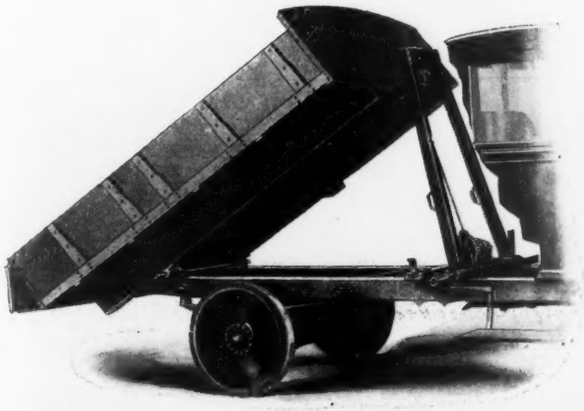
*"The Simplest Magneto of Them All"*

# ROCK HAND HOIST

SIMPLE - POWERFUL - DURABLE -

A simple, light-weight, well designed and carefully built hand hoist for motor truck dump bodies.

It is provided with cut gears and grease packed bearings, is fastened to any width chassis without change by means of special clamps and can be applied to almost any kind of a body.



It is guaranteed for bodies up to 3½ ton capacity and sells, complete with hinge for body, for $85.00.



**ROCK MFG. CO.**

**Waterloo, N. Y.**

THIS SYMBOL IN ANY ADVERTISEMENT MEANS: SEE "CHILTON AUTOMOBILE DIRECTORY" FOR COMPLETE BUYING INFORMATION



# THERE'S A BIG MARKET
## FOR THIS
# ALL SERVICE TRUCK BODY
## FOR FORD ONE TON CHASSIS

**Specifications**

1. Body all steel and built to combine hard service with lasting qualities.
2. Nominal capacity one ton. Extreme dumping angle about 45°.
3. Cubic capacity (without surcharge) 36½ cu. ft. Dimensions 72″x44″x20″.
4. Body No. 10 steel plate reinforced with 1½″x1½″ x$\frac{3}{16}$″ angle. Welded and riveted construction.
5. Safe overload 100%.
6. Fitted in 15 minutes by placing 6 bolts supplied with body; no drilling required on chassis.

Consult any Ford dealer or write us direct for additional information and full specifications

This body is designed for road contractors, coal, sand, and gravel dealers, also for hauling brick, lumber, cement and express, and is very desirable where there is need for combined open and closed-end truck bodies. It is also indispensable for farm use.

It is so designed that commodities such as bagged coal, sacked cement, kegs, boxes, etc., can be moved easily and rapidly.

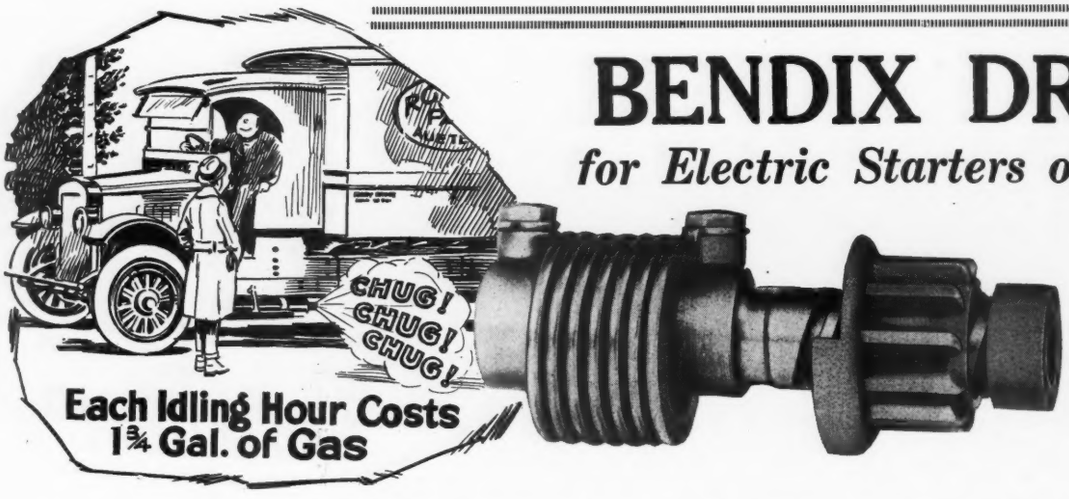
Special attention is directed to the fact that the load is not raised but moved horizontally; therefore, only minimum effort is required.



Manufactured by **New York Central Iron Works Co., Inc.**
HAGERSTOWN, MARYLAND

NYC HAGERSTOWN, MD.

# CROOKE ALL SERVICE TRUCK BODY




# BENDIX DRIVE
## *for Electric Starters on Trucks*

**Automatic Engaging and Disengaging**

BENDIX DRIVE

As long as truck drivers must crank their engines, they will let them "idle" while standing. Each idling hour costs 1¾ gallons of gas. An hour a day costs *over $100 a year.*

Numberless engines have been ruined because an oil line, pump or radiator has clogged while their drivers left them, idling. Incalculable damage to universal joints, jack shafts and gear sprockets has resulted from drivers coasting down grade and throwing in the clutch to start.

Drivers whose trucks are equipped with electric starters *don't do these things.* The saving is the truck owner's.

Bendix Automatic Drives for electric starters are absolutely automatic—certain in action—with fewer parts than any other drive. They require a minimum of care and attention.

An electric starter, equipped with the Bendix Drive, will save every truck owner money in the savings it will effect. Let us show you.

**Eclipse Machine Company** **Elmira, N. Y.**

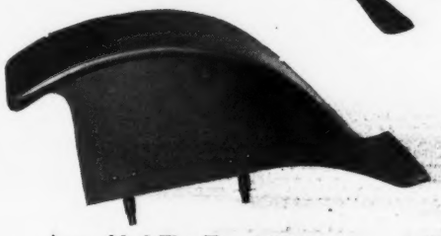
THIS SYMBOL IN ANY ADVERTISEMENT MEANS: SEE "CHILTON AUTOMOBILE DIRECTORY" FOR COMPLETE BUYING INFORMATION

# Standardized

## Quality Fenders It Will Pay You to Use



Plain Top T3909



Assembled Flat Top A3909

"3M" Standardized Fenders are more than merely good-looking truck mud guards. They are built to withstand hard service.

These standardized sheet metal parts are made from high-grade material. An up-to-date plant, modern machinery and quantity production enable us to manufacture "3M" Standardized Fenders at low cost—*which saving we are glad to pass on to our customers.*

Because of their comparatively low cost, these better fenders can also be offered as replacements by dealers—for excellent profits.

**Truck Makers, Dealers:** ***Full Details of These High-Class Fenders Gladly Sent. Write***

**Motors Metal Manufacturing Co.**
**Detroit, Michigan**

# HALE & KILBURN

## Motorbus Seats



No. 108 Special Rattan

**Our Patented**

## Space Saving Feature

Gives 1½ Inches More Space for Knees of Every Passenger

*WRITE FOR PARTICULARS*



No. 108 Special Leather

**With Thirty Years' Experience as Largest Makers of Passenger Vehicle Seats We Can Solve Your Seating Problems**

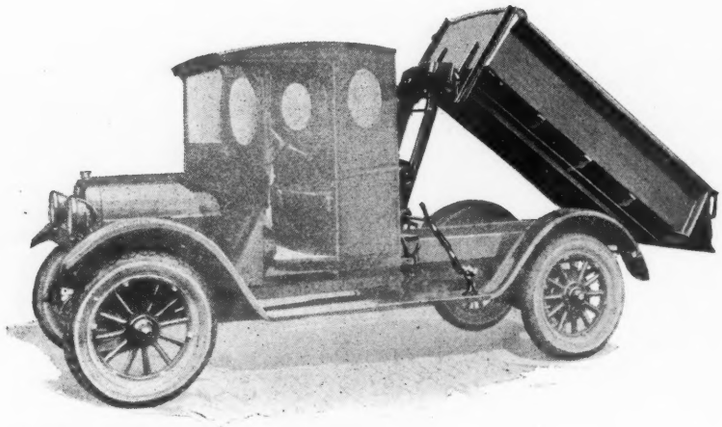
## Hale & Kilburn Corporation

American Motor Body Co.
*Successors*

***Works:*** **1800 Lehigh Ave., Philadelphia**

***Sales Offices:***

Hale & Kilburn Corp., 30 Church St., New York
Hale & Kilburn Corp., McCormick Bldg., Chicago
Nat'l Safety Car. & Equip. Co., Theresa and Clark Aves., St. Louis
E. A. Thornwell, Candler Bldg., Atlanta
Eccles & Smith Company, 71 First Street, San Francisco
Eccles & Smith Company, 447 E. 3rd St., Los Angeles
H. M. Euler, 46 Front Street, Portland, Oregon
T. C. Coleman & Son, Starks Bldg., Louisville
W. L. Jefferies, Jr., Mutual Bldg., Richmond
W. D. Jenkins, Praetorian Bldg., Dallas, Texas
W. D. Jenkins, Carter Bldg., Houston, Texas
C. S. Wright, Toronto, Canada



# STRENGTH—

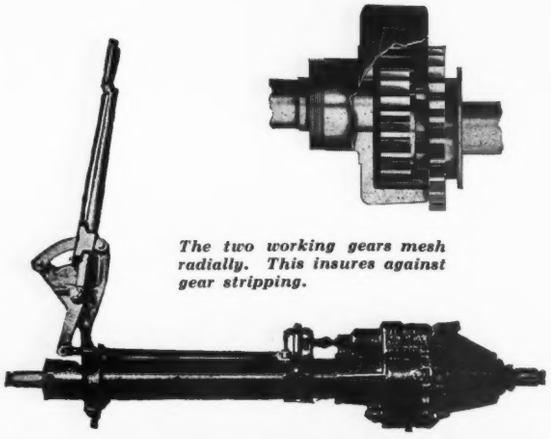
Galion Allsteel Dump Bodies are built to stand the strain of constant use. The heavy angle irons which support the body, the electrically-welded construction, and the ten-gauge metal used throughout insures a long period of useful operation.

Durability is built into every Galion body—and there is a model for every requirement.

*Write for your copy of our catalog*

**THE GALION ALLSTEEL BODY CO.**
**Galion, Ohio**

# Enables Mack Trucks to Pull Bigger Loads



*The two working gears mesh radially. This insures against gear stripping.*

# AHLBERG
## DUAL TRANSMISSION

***for Mack—Packard—White—Graham Bros.—Garford Trucks***

## *EASY PROFITS FOR MACK DEALERS*

With worth-while profit for themselves, Mack dealers can do their customers a great service—by equipping their trucks with the Ahlberg Dual Transmission.

This truly remarkable transmission reduces standard gear ratios **62½ per cent.** Enables the Mack to pull bigger loads up steep grades without the usual bucking or straining. Gives the husky Mack greater speed with the same engine R.P.M. by increasing driving sprockets.

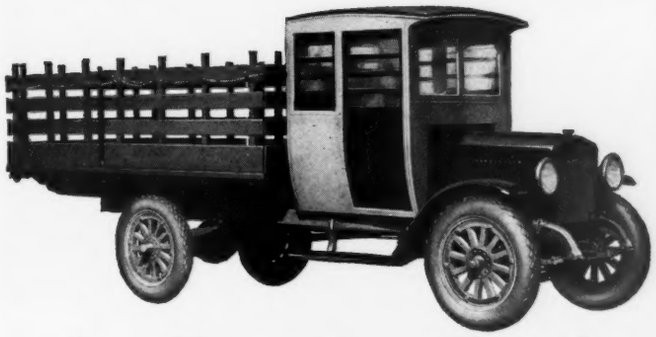
In addition, this time and money-saving transmission provides *6 speeds forward, 2 reverse.*

A Mack A. C. Model Transmission will cost your customer only $276.50, including war tax, and additional Spicer joint, F.O.B. Los Angeles.

Ahlberg Transmissions also made for Packard, White, Graham Bros., and Garford trucks.

*Get your share of these easy Ahlberg sales and profits. Write*

**K. E. AHLBERG COMPANY**
**120 West 22d St. Los Angeles, Cal.**



# A Crackerjack One-Ton Model!

**Today the one-ton truck is one of the country's best sellers. It's in demand everywhere.**

**Here's a crackerjack one tonner—a wonderful piece of merchandise.**

**This powerful, well-balanced, rugged one-ton design will be a big money maker for money-making dealers.**

- Buda motor
- Brown-Lipe clutch and transmission
- Timken axles
- Modine-Spirex radiator
- 132-inch wheelbase
- 33 x 5 Pneumatic cord truck tires

**In production now. Prompt delivery. For big dealers and small dealers—for big towns or small towns—everybody everywhere can make money selling this remarkable one-ton job.**

**May we hear from you at once—today?**

**Duplex Truck Company**
**Lansing Michigan**

DUPLEX
BUILT FOR BUSINESS



# -Now- 3 men do work of 5

***Better cleaning methods release needed labor for other important work***

A CAREFUL study of cleaning methods in a plant that produces gears for 20 different makes of automobiles resulted in a saving of 8 minutes on every gear turned out.

The gears are sand blasted to remove scale from heat treating. The sand blast was also depended on to remove tempering oil. This oil gummed up the sand blasting and hindered the sand from getting at the scale. Too much time was spent on this operation.

It was found that Oakite Platers' Cleaner would quickly remove all the burnt-on oil from the gears. Each gear could then be sand blasted in 8 minutes less time than before. Now 3 men at the sand blasting machines turn out as many gears in a day as 5 men could blast before the gears were cleaned. The saving in the cost of sand blasting and in labor testify to the importance of modern cleaning methods.

This instance, of course, may not be at all like the kind of cleaning problem that you are up against personally. But it shows what can be done when cleaning methods are planned along scientific lines. It is likely that with all our experience, we could offer you some valuable suggestions about cleaning methods, equipment or materials that would materially increase the efficiency of your labor and cut down your costs.

And that is the way labor-saving ideas are born—when two practical men, each backed by his own special experience and knowledge, concentrate on a problem. One of our cleaning specialists will be glad to co-operate with you. When would you like to have him study your problem with you?

**Oakley Chemical Co.** *General Offices:* **38 Thames St., New York, N.Y.**

OAKITE
*Industrial Cleaning Materials*

THIS SYMBOL IN ANY ADVERTISEMENT MEANS: SEE "CHILTON AUTOMOBILE DIRECTORY" FOR COMPLETE BUYING INFORMATION

EFFICIENCY-RELIABILITY-DURABILITY
GARY
SIMPLICITY-TRUCKS-ECONOMY

1, 2, 2½, 3½ and 5 ton sizes. And Gary Oil Field Special.

*"Built to Quality and Not to Price"*

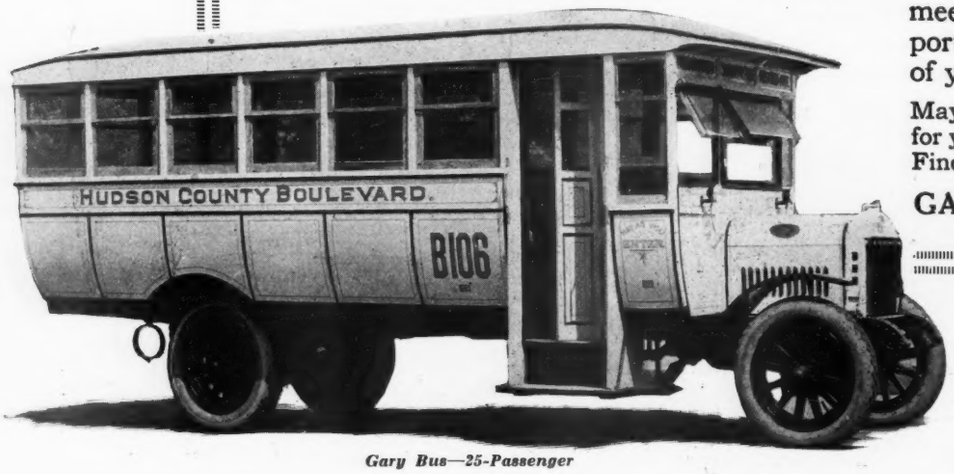
# Quality Makes for Easy Sales at Gary Prices

Despite the fact that the quality of Gary Trucks is the very highest, Gary prices are *lower than the average price of over forty different makes of trucks.*

And bear in mind that the Gary line is *complete.* There is a Gary model that will exactly meet the individual transportation needs of each of your customers.

Maybe the Gary Franchise for your territory is still open. Find out. *Write.*

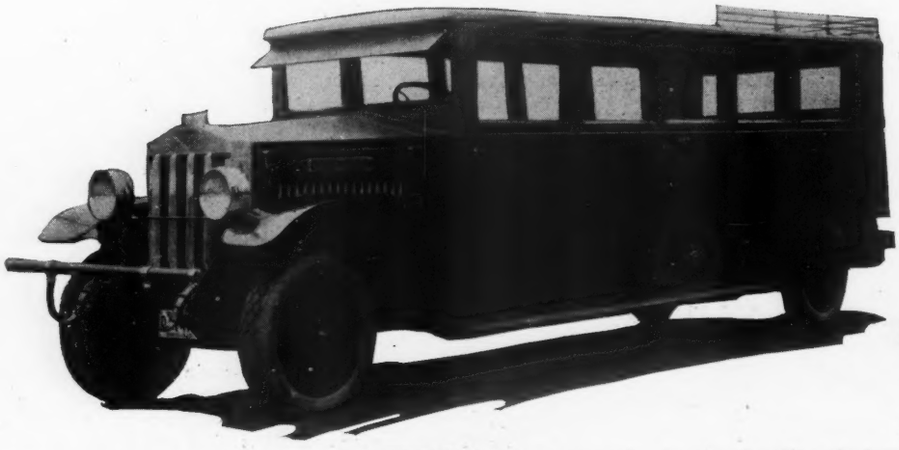
**GARY MOTOR CORP.**
GARY, INDIANA




*Gary Bus—25-Passenger*

*The production capacity of our up-to-date plant at Gary, Indiana, is 200 trucks monthly.*

# FREMONT SEDAN COACH



**Model 700**

**21 Passenger**

**$1650.00**

***Feature This Superb Bus Body***

Sight-seeing bus companies, touring bus lines and many other concerns are live prospects for the luxurious Fremont Sedan Coach Model 700. Rear door gives access to rear seats—which can be partitioned off for smoking compartment. Finest of materials, workmanship and appointments throughout. Built in 13, 17 and 21 passenger capacities. Feature this superb bus body on *your* chassis—for handsome profits. The Fremont Dealer Franchise enables you to get the cream of the bus business in your territory with the complete line of Fremont Bus Bodies. For details—*write now.*

**Fremont Metal Body Company, Fremont, Ohio**

# ZENITH

## *The Ten Best Trucks*

Which, in your opinion, are the ten best motor trucks?

Turn to the specification tables and see how many of them use *Zenith Carburetors* as standard equipment.




If you want to know why, send for copy of this book.

**ZENITH-DETROIT CORPORATION**

Manufacturer of

**ZENITH CARBURETORS**

**DETROIT**

**New York Chicago Cleveland**

EISEMANN

## *REPUTATION*

*You choose for your friends people of reputation. That is self-protection. In business the same rule holds true*

CONSIDER the reputation of the Eisemann Magneto—for sixteen years it has met the requirements of *seventy-five per cent* of the motor truck manufacturers of the United States.

During this period the fundamental, proven design has not been altered. There have been refinements and improvements in methods of manufacture and in quality of materials. But the design was right at the beginning—it is right today.

There are upwards of 1,000,000 Eisemann Magnetos in service throughout the world—on trucks, tractors, passenger cars, internal combustion engines used for almost every purpose.

Public confidence has placed the Eisemann Magneto in a position almost unparalleled in the automotive field.

The inclusion of the name "Eisemann" in your specifications is a distinct sales advantage




**EISEMANN MAGNETO CORPORATION**

**BROOKLYN, N. Y.**

DETROIT CHICAGO SAN FRANCISCO

*Service Stations Conveniently Located Throughout the Country*

THIS SYMBOL IN ANY ADVERTISEMENT MEANS: SEE "CHILTON AUTOMOBILE DIRECTORY" FOR COMPLETE BUYING INFORMATION

*With Slight Changes in Design DROP FORGINGS Can be Substituted for CASTINGS in Many Cases*

# DROP FORGINGS

**Open Hearth or Alloy Steel** **Capacity, 2,000 Tons Per Month**

Outside View



*Crank Case Gear Cover*

*Unusual Drop-Forged Work*

*17" x 10"*

*Weight, 19¾ lbs.*

Inside View

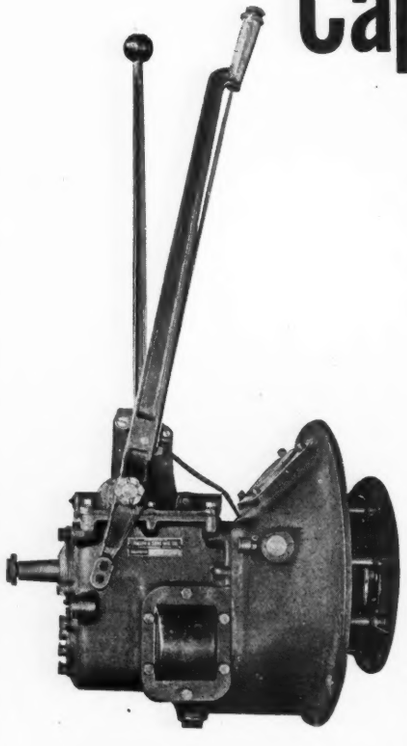


## BACKED BY FORTY YEARS' EXPERIENCE

**Heat Treating and Complete Laboratory Equipment**

## UNION SWITCH & SIGNAL COMPANY

**PITTSBURGH DISTRICT** **SWISSVALE, PA.**



# Capitalize Fuller Prestige

Over a period of nineteen years Fuller Transmissions have steadily maintained a reputation for *quality*—which readily explains why they are the most widely used transmissions in the automotive industry.

Make Fuller reputation yours—by incorporating these quality transmissions in your quality truck assembly.

Capitalize Fuller prestige—and add a potent selling feature—that will help reduce selling resistance for your dealers.

*Think this over!*

**Fuller & Sons, Kalamazoo, Mich.**

**Detroit—San Francisco—London**

# FULLER Transmissions

THIS SYMBOL IN ANY ADVERTISEMENT MEANS: SEE "CHILTON AUTOMOBILE DIRECTORY" FOR COMPLETE BUYING INFORMATION




YOUR COUNSELLOR ON TRUCK VALUES

The makers of the best trucks say: "Watch your mileage!" A maker of inferior trucks would rather you wouldn't.

Producers of high-grade accessories and supplies say: **"Watch your mileage!"** Those selling cheap products would rather you'd forget it.

Veeder
HUB ODOMETERS

**protect** the truck owner and dealer; **prove** the merit of real-value trucks and equipment.

They tell the mileage you get for your money—whether that money represents the initial cost of a truck or the operating cost for gasoline!

REGULAR MODEL — $20.00
FORD TRUCK MODEL — $15.00

Informative Circular on Request

The Veeder Mfg. Co.
10 Sargeant Street Hartford, Conn.

*Sales and Service Stations in*

Atlanta, Ga.
Baltimore, Md.
Birmingham, Ala.
Boston, Mass.
Buffalo, N. Y.
Chicago, Ill.
Cincinnati, Ohio
Cleveland, Ohio
Denver, Colo.
Detroit, Mich.
Indianapolis, Ind.
Kansas City, Mo.
Los Angeles, Cal.
Montreal, Quebec
New Orleans, La.
New York, N. Y.
Philadelphia, Pa.
Pittsburgh, Pa.
Rochester, N. Y.
St. Louis, Mo.
St. Paul, Minn.
San Francisco, Cal.
Syracuse, N. Y.
Tacoma, Wash.
Toronto, Ont.
Washington, D. C.
*—and other cities.*






# This dealer asked other dealers

WHEN F. D. Walters, a leading dealer of Oil City, Pa., was comparing trucks and deciding on which line he would handle, he wrote to ten Atterbury dealers asking about the line, the factory and the satisfaction of Atterbury owners.

From his ten letters he received nine replies written as man to man and dealer to dealer.

Every one of them pointed with pride to the specifications of the new Atterburys.

They showed the Atterbury dealers' feeling of confidence that has resulted from doing business with an old established manufacturer whose permanence is a proven fact.

And last, but by no means least important, they showed the business growth that is the certain result of owner satisfaction.

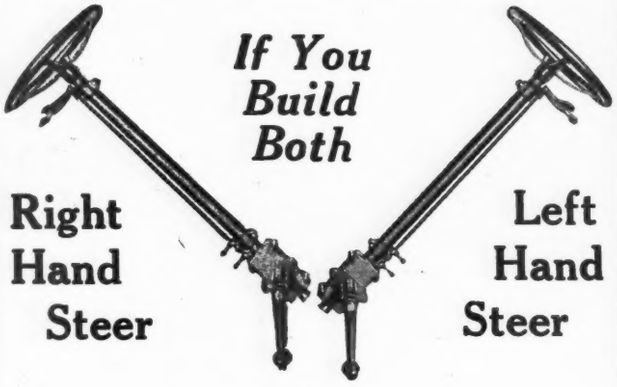
How would you like to see Mr. Walters' letter and the nine answers? Drop us a line and they will show you why the Atterbury line will appeal to you as it did to him.

**ATTERBURY MOTOR CAR COMPANY**
**Elmwood Ave. at Hertel Buffalo, N. Y.**

MOTOR TRUCKS OF ATTERBURY MAXIMUM SERVICE

**1903-1923**
**TWENTIETH ANNIVERSARY**

# Use a Lavine




THE

## Interchangeability of the Lavine Will Interest You

The same stock gear is used for either right or left steer.

**No Adjustment**
**No Machining**
**No Keeping Two Stocks**

## DOUBLY ATTRACTIVE IS THE FACT

That each and every part of the gear itself is absolutely interchangeable.

**HEAT TREATMENT GIVEN PARTS is Second to None**

**LAVINE GEAR CO.**
**MILWAUKEE WISCONSIN**

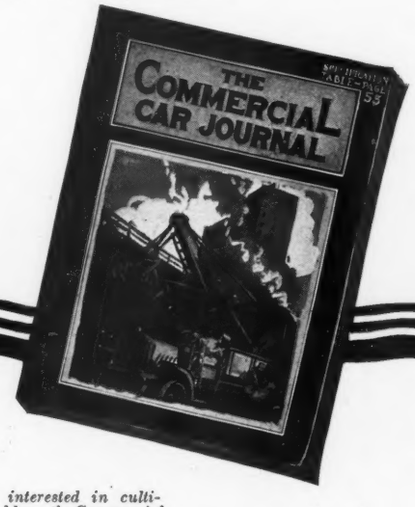


# Has twice as much advertising as the next three competitors combined!

What a record!

The COMMERCIAL CAR JOURNAL has steadily maintained this volume of business thruout 1922 and so far during 1923. The pre-eminence of this book as the best advertising medium in the motor truck field is proven by the verdict of advertisers.

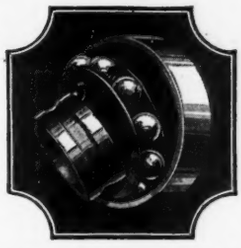
The COMMERCIAL CAR JOURNAL is the only medium in the truck field that definitely proves it has sufficient truck trade subscribers to justify your advertising. To offset its nearly 9000 trade subscribers the only competitor proving its circulation has less than 300.




*If you are interested in cultivating this field use the Commercial Car Journal. Rates and other information on request.*

**Commercial Car Journal**
**Chestnut and 56th Streets**
**Philadelphia**

"NORMA"
PRECISION
BALL BEARINGS



Internationally recognized as the standard bearings for ignition apparatus and lighting generators

THE NORMA COMPANY OF AMERICA
Anable Avenue
Long Island City New York
BALL, ROLLER AND THRUST BEARINGS

THE confidence which so many motor truck manufacturers place in the Brown-Lipe-Chapin products is due to their record of unfailing superiority since the beginning of the industry.

MANUFACTURED AT SYRACUSE, N. Y.

BROWN-LIPE-CHAPIN
DIFFERENTIALS — BEVEL DRIVE GEARS

You Cannot Buy It!

You cannot buy or rent the valuable CHILTON TRADE LIST but it will be loaned to you if you are an annual advertiser in the CHILTON AUTOMOBILE DIRECTORY.

This is the most complete and accurate list of the retail automobile trade obtainable. It gives the names, addresses and business classifications of dealers, garagemen, supply houses, repairmen, etc.

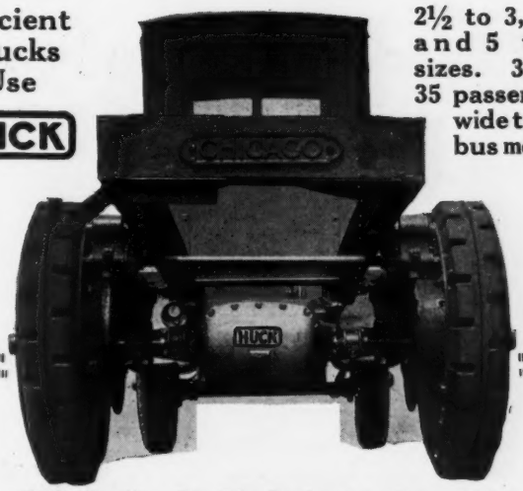
The CHILTON TRADE LIST Service also includes a Bulletin Service of changes in the Trade List, Jobbers' Roster of the names of members of the A.E.A.; Roster of Automobiles Accessory Supply Houses; and a list of Officers and Managers of automobile truck and tractor concerns. Executives and Sales Managers find CHILTON TRADE LIST Service indispensable.

CHILTON AUTOMOBILE DIRECTORY
Chestnut and 56th Sts., Philadelphia

CHILTON TRADE LIST

Efficient Trucks Use HUCK

2½ to 3, 3½ and 5 ton sizes. 30 to 35 passenger wide track bus models.




Full Floating Double Reduction Rear Axle

Delivers 96% Power to Rear Wheels

Entire driving mechanism of the Huck Axle enclosed in dust-proof axle housing. Operates as a complete unit. This exclusive construction insures positive alignment and perfect lubrication, assuring long life—and enables this husky axle to deliver to the rear wheels a *practically constant power flow of 96% at all speeds and all loads.*

The truck maker who aims to make truck selling as easy as possible for his dealers should look into the outstanding merits of this superior rear axle—*now. Write.*

Huck Axle Corporation, 4640 West Harrison St., Chicago

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Butler

# TRUCK SPRINGS

and

Butler

## CHROME NICKEL
# TRUCK AXLES

If your jobber does not handle Butler lines, write us and some other jobber will give you service.

Also nuts, keys and key stock, and

## GILLIAM BEARINGS

**BUTLER AUTOMOTIVE STEEL CO.**
**101 M Street, Easton, Pa.**

*ANNOUNCING NEW MODELS*

# MASTER TRUCKS

**A COMPLETE LINE**

**SPEED MASTER—¾ to 1¼ Ton**
**Highest Achievement for Fast Transportation**

**HEAVY DUTY MODELS—1½ to 6 Ton**

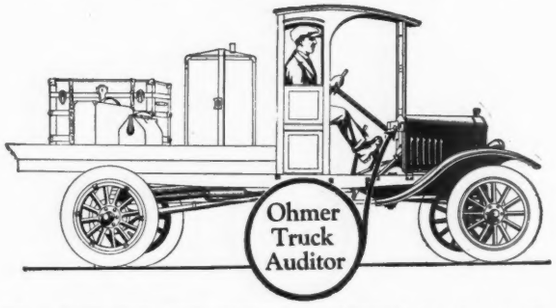
MASTER TRUCKS

Every Master Truck built of highest-grade recognized standard units, balanced oversize throughout. New models are the result of eighteen years' experience in successful motor-truck building.

**Write for Specifications and Liberal Proposition to Live Dealers. Valuable Territory Still Available**

## MASTER MOTORS CORPORATION
**CHICAGO, U. S. A.**

# Ohmer Truck Auditor
**(For Motor Cars—Trucks—Buses)**




The OHMER TRUCK AUDITOR is the ***only*** truck recording device that gives a ***printed*** daily record, telling—

**Who drove the truck.**
**Exact miles operated each day.**
**Time truck is used each day.**
**Mileage and time for each trip.**
**Time truck is idle, the date, etc.**

It costs money to operate trucks and to hire drivers. The OHMER TRUCK AUDITOR tells how your money is being spent.

*(Dealers Write or Wire)*

## Ohmer Fare Register Co.
**Address Dept. D** **Dayton, Ohio**

# Invaluable!

EVERY Manufacturer selling to the retail trade should have the CHILTON TRADE LIST. It gives the names, addresses and business classifications of all dealers, garagemen, service stations, supply houses and repairmen in the United States and Canada.

This list is *loaned* only to annual advertisers in the CHILTON AUTOMOBILE DIRECTORY and cannot be obtained in any other way. For further information address:

**Chilton Automobile Directory**
**Chestnut and 56th Sts.**
**Philadelphia**




# The Chilton Trade List

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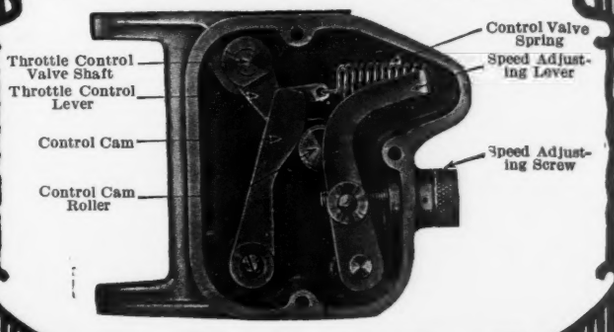
# 65,000 in Actual Use Prove Results

TODAY more than 65,000 Handy Governors are in use and their number is constantly increasing.

For Handy Governors are not only the simplest and most efficient but also the only governor that requires absolutely no attention—not even oiling—after installation.

Make sure that the governor for your truck is trouble proof by specifying that it be a Handy.

**HANDY GOVERNOR CORPORATION**
**3021 Wabash Ave. Detroit, Mich.**




# HANDY GOVERNOR

# Ask the Mechanic— He Knows



Mechanics know that many truck-steering gears are mighty hard to adjust. This is not the case with

**Always Adjustable**

# WOHLRAB

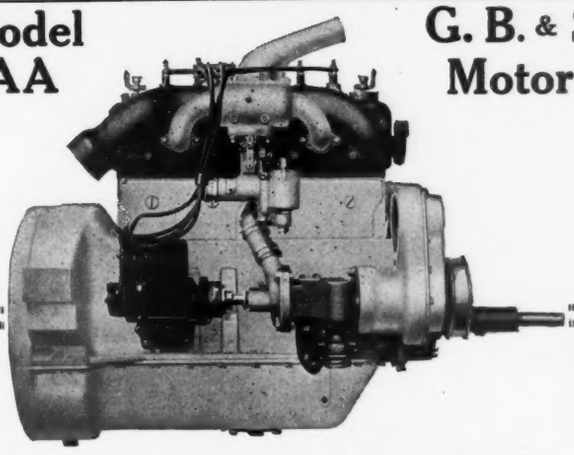
**Steering Gear**

Any mechanic can quickly and easily make any required adjustment on a Wohlrab—which is one reason that Wohlrab gears always steer easily, have no excess play and are a selling asset to any truck.

Get acquainted with this easily repaired, inspected and adjusted gear. Write for a catalog today.

**The Wohlrab Gear Company**
**RACINE WISCONSIN**

# Model AA G. B. & S. Motor



## *Priced Low for Quick Sale*

This Model AA G. B. & S. replaces Continental Motor N-3¾" x 5"—a size very much in demand.

Without any change of fitting dimensions, truck manufacturers and dealers can install this famous quality G. B. & S. engine on any truck that accommodates the Continental model.

Has aluminum base, high class workmanship throughout. Built to withstand severest truck service.

A number of Model S G. B. & S. Motors also available at exceptionally reasonable prices.

***Wire Your Requirements***

**Golden, Belknap & Swartz Co., Detroit, Mich.**

# G. B. & S. MOTORS



# Rely on York Sheet Metal Parts

In closing the sale of your truck, the Sheet Metal Parts play a surprisingly large part—when they are York-made.

Not only are York Sheet Metal Parts rugged in construction and reasonably priced—they are uncommonly handsome in appearance. And that certainly helps make truck sales.

Do you need Fenders, Tanks, Hoods, Radiator Shields, Tool Boxes or Special Stampings? Ask us to quote you—this doesn't obligate you in the least.

**York Corrugating Co.**
**York, Pa.**

COUNTERBALANCED

# PARK

CRANKSHAFTS

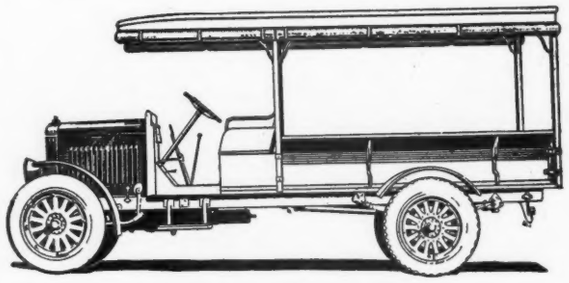
Patented July 10, 1917



We have shipped 142,105 Counterbalanced Crankshafts up to April 30, 1923.

THE PARK DROP FORGE COMPANY

Cleveland, Ohio



KISSEL'S TON EXPRESS

THE Ton Express—built for the retailer, merchant, wholesaler, farmer—is a regular One-Ton Kissel Truck in which strength and durability are combined to make it the best value on the market, irrespective of price.

**$1585**

Chassis—Standard Equipped

**$1985**

For chassis and body completely equipped with worm-drive rear axle, electric lighting and starter, cord tires, express body and top—completely painted. Prices F.O.B. Hartford, Wisconsin.

**KISSEL** Motor Trucks 5 Sizes

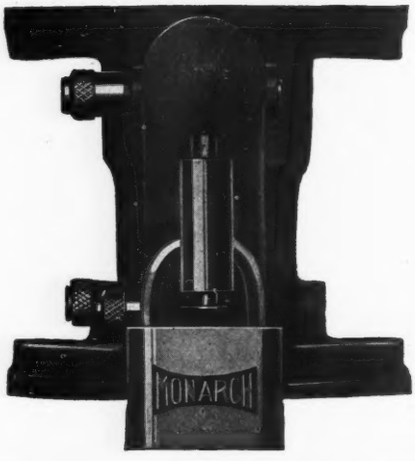
The complete line of Kissel Trucks creates a sales opportunity that makes the Kissel Franchise in your territory doubly valuable. Also Special Road Builders' Truck, Hoppers, Measuring Boxes, Turntable, etc. Send for franchise details.

The Kissel Motor Car Co.

Hartford Wisconsin

Originators of the ALL-YEAR Cab for Trucks

# THE MODEL G




## THE PIONEER

## Gas Velocity Governor

*175,000 in Use All Over the World*

MONARCH GOVERNOR CO.

DETROIT, MICH.

# WATCH

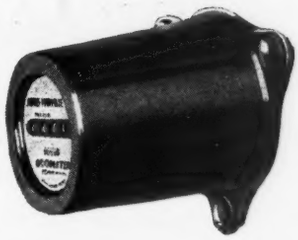
This Space for a New Type ALL-WEATHER CAB

A Salable and Profitable Cab to Recommend

Cabs for Motor Trucks

SHEET STEEL PRODUCTS COMPANY

MICHIGAN CITY, INDIANA



**Johns-Manville Hub Odometer for Ford Cars**

All the new business cars and trucks lately put in service mean more need for the Johns-Manville Hub Odometer. A supply of our leaflets will help you to get the business at an excellent profit.

JOHNS-MANVILLE, Inc.
Madison Ave., at 41st St., N. Y. City
*Branches in 59 Large Cities*

Through—
**Asbestos**
and its allied products
JOHNS-MANVILLE
*Serves in Conservation*
Heat Insulations, High Temperature Cements, Asbestos Roofings, Packings, Brake Linings, Fire Prevention Products

**JOHNS-MANVILLE**
**Automotive Equipment**

# Higher Overload Capacity

BY virtue of their use of the greatest possible number of largest possible size balls, Gurney Bearings withstand shocks and overloads that would be disastrous to other bearings.

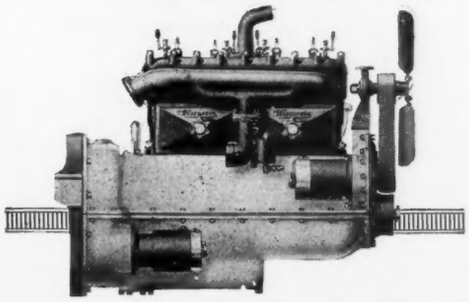
Their remarkable accuracy and uniformity of manufacture—and the fact that their load capacity is greater than other bearings of equal size—make Gurneys best suited for replacement work. Their use adds a stronger part to the machine.

If you design machines, our engineers can help you—will you let them?

**Gurney Ball Bearing Co.**
*Conrad Patent Licensee*
**Jamestown, N. Y.**

**GURNEY**
**BALL BEARINGS**

(18146)



# Seven Cardinal Points of WISCONSIN Supremacy

1. *Performance*
2. *Economy*
3. *Light Weight*
4. *Service*
5. *Production*
6. *Complete Line*
7. *Standardized Construction*

**WISCONSIN MOTOR MFG. CO.**
MILWAUKEE WISCONSIN

**Wisconsin**
CONSISTENT

# Bowen-Empress
HIGH PRESSURE LUBRICATING SYSTEM

**For All Motor Cars and Trucks**



A practical and effective system of lubrication for the chassis which satisfactorily meets all requirements and at the same time eliminates all of the objectionable features of the systems now in use.

One hand operates it.

Effectively handles all grades of grease or oil.

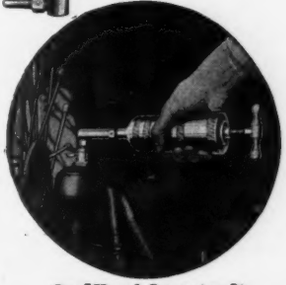
Pressure or gravity system.

Convenient to handle, simple to operate.

Cleans and lubricates.

Quick. The entire chassis can be lubricated in less than half the time required with any other similar system.

Easily installed. A wrench is the only tool needed.



*One Hand Operates It*

***Write for Descriptive Booklet No. F-302***

**Bowen Products Corporation**
**Auburn New York**

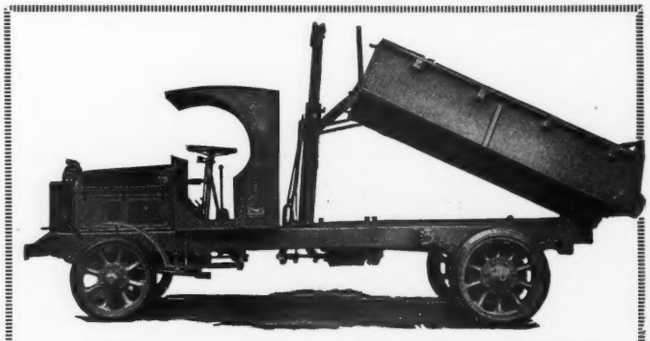


Schatz
"UNIVERSAL"
Annular
BALL BEARING

Designed and built for heavy duty and precision. High carbon chrome-steel balls and races. Three-area contact provides for 50% thrust in either direction.

**The Federal Bearings Co.**
**Incorporated**
**Poughkeepsie, N. Y.**





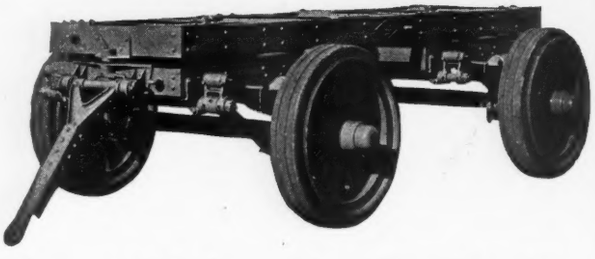
# STEWART'S STEEL DUMP BODIES

**Built to withstand hard usage. Bodies made to give your truck additional service.**

**Standard and Special Steel Bodies. Let us quote on your requirements.**

THE STEWART IRON WORKS CO.
COVINGTON, KENTUCKY
*Manufacturers of*
STEEL BODIES CABS BUMPERS DASHES RADIATOR GUARDS

# FRUEHAUF TRAILERS



## Repeat Sales—for Big Profits

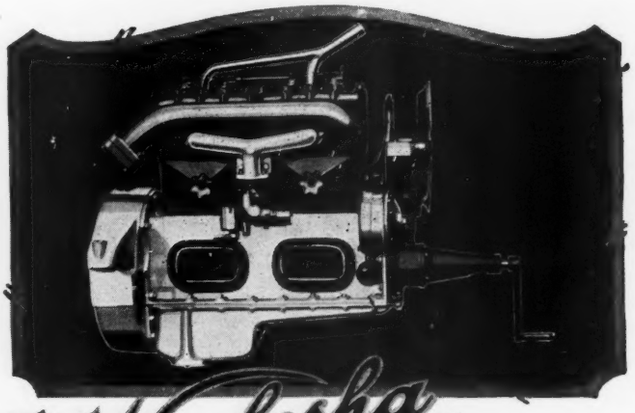
A sale of one Fruehauf Trailer is usually followed by a repeat order—which is often a fleet sale.

That of course is due to Fruehauf superior design, exclusive features of construction—and immediate sharp lowering of haulage costs.

Fruehauf Trailer Company is one of the largest and oldest trailer concerns in the United States. It has come thru the trying period of the last two years in a financially sound condition. It is growing steadily—and Fruehauf dealers are growing with it.

Write for the Fruehauf list of "Saving-hauling-costs Fleets," the road-sign to opportunity for the dealer with vision and aggressive sales punch.

**FRUEHAUF TRAILER COMPANY**
**10921 Harper Ave. Detroit, Mich.**



Waukesha
TRADE MARK
BUS and TRUCK MOTORS

The new Waukesha Bus and Truck Motor represents from your standpoint more sales made, more satisfaction given, more business prestige created. Its engineering features, possible through Waukesha experience and skill, assure your customers a dependable, continuous, long-period operation at a surprising new figure in economy.

*Complete information on request*

*The* **WAUKESHA MOTOR COMPANY, Waukesha, Wisconsin**

THIS SYMBOL IN ANY ADVERTISEMENT MEANS: SEE "CHILTON AUTOMOBILE DIRECTORY" FOR COMPLETE BUYING INFORMATION

# BUSH RADIATORS

BUILT TO ENDURE
FOR
TRUCKS - BUSES

BUSH MANUFACTURING CO.
HARTFORD, CONN.



## Six Big Dealer Features

1. A company whose success is assured
2. A truck that made good in mud
3. Bigger dealer discounts
4. One dealer to a county
5. Dealing direct with factory
6. Sales Service Scout help
   —and the big EXTRA!

Send for the New Bessemer Sales Plan folder. Gives ***all*** details.

**Bessemer Motor Truck Co.**
Motor Truck Division
Bessemer-American Motors Corporation
PHILADELPHIA, PA.

The Bessemer Tandem Duplex Drive Transmits Power with 97% Efficiency
BESSEMER MOTOR TRUCKS
The Truck that Made Good in MUD



## STOP LEAKS!




**Stewart Mileage Recorder** **$18**

Cut down wastage and you increase profits.

How much mileage do you get from the tires you use?

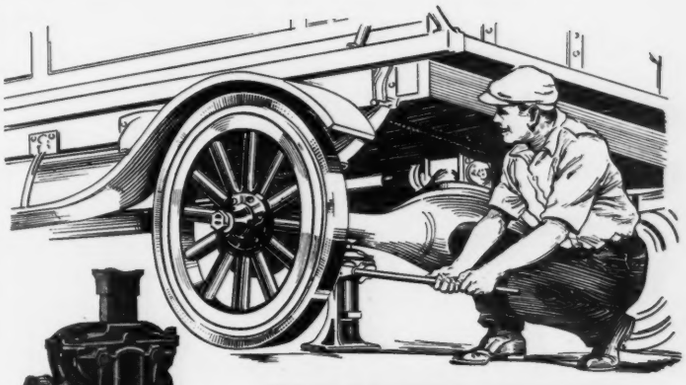
How much ground do each of your trucks cover in a day?

Who are your most efficient drivers?

By enabling you to answer these questions, the Stewart Mileage Recorder will help you in cutting operating costs.

**Stewart-Warner Speedometer Corp.**
Chicago, U. S. A.







**FOR MOTOR TRUCKS**
## The Dependable Rees

Minutes count on truck deliveries.

Equip your customers' trucks with a Dependable Rees Jack and you'll have done your part to cut down costly delays.

To the Rees, which readily handles heavy-duty trucks, the lifting of truck axles is child's play.

It operates with surprising ease and speed. The powerful double-worm gear drive never fails. The wide-swinging handle moves as high or low as space permits—not just the usual notch at a time. Its massive construction easily stands the strain—with no chance for the load to slip or drop.

How are you fixed for stock? Better fill up *today*.

*EXCLUSIVE MANUFACTURERS*

Rees Manufacturing Company
7501 - 7511 Thomas Boulevard
PITTSBURGH, PA.

Reg. Trade Mark
REES

A *Selling* Demonstration
of the
# ARCHER
## STEEL DUMP BODY AND HAND HOIST

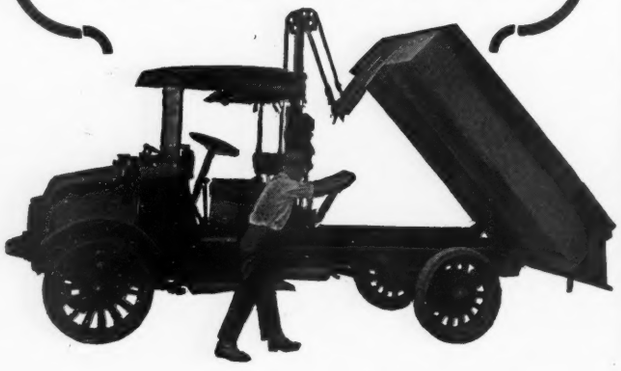
Show your customer how, with this easy-to-operate outfit, one man readily dumps the entire load. *Such a demonstration will sell the buyer,* because he will see with his own eyes the Archer's superior time and labor-saving features.

For road builders, coal concerns, grain merchants—for every business that needs efficient dumping equipment.

Write for special dealer proposition.

*Our Standard Dump Outfits Fit All Makes of Trucks From 1 Ton to 5 Ton Capacity*

**ARCHER IRON WORKS**
**2450 West 34th Place, Chicago**



*Adds Years to the Life of*

# Your Light Delivery Truck Assembly

Only in the Columbia Single Reduction Bevel Gear Axle will you find those features of construction that will add years to the life of your light delivery, high-speed truck assembly.

The famous Columbia one-piece housing—pressed from a single piece of steel, and welded once—adds 50% greater torsional strength, ***alone.***

Let us tell you the Columbia story in full. It will pay interested truck manufacturers to write for it to

**The Columbia Axle Co.** Cleveland, Ohio

# COLUMBIA
SINGLE REDUCTION **AXLES**

## TRANSMISSIONS
**Unit Power**
and
**Main Frame**

## CLUTCHES
**Multiple Disc**
and
**Multiple Lever, Single Plate**

## CONTROLS
**A Style and Capacity**
for
**Every Requirement**

**BROWN-LIPE GEAR CO.**

SYRACUSE, N. Y.

San Francisco Chicago Detroit
New York London, Eng.

# Universal Joints That Give Real Service

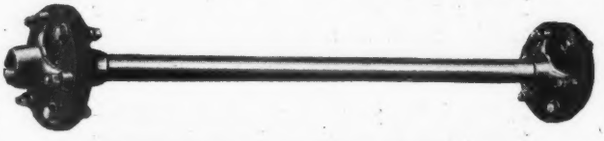
*Electrically Heat Treated Nickel Steel Tube Makes*

**A lighter weight shaft**
**A greater strength shaft**
**A non-whipping shaft**

*Flexible Fabric Disc Joint Means*

**Cushioned power impulses**
**Longer life to gears and bearings**
**Minimum replacement costs**
**No need of service attention**

**SNEAD & CO.** Jersey City, N. J.



**SNEAD CUSHION DRIVE**

# BUS SEATS



with deep, comfortable cushions with spring edge.

Bronze corner grip-handle for standees.

Offset back, giving additional aisle room.

Equip your buses with cross-seats. Passengers prefer to ride facing forward.

*Write for Cuts and Prices of Seats in Rattan Genuine or Imitation Leather*

*Also Prices on Rattan Car Seat Webbing*

**Heywood-Wakefield Company**

**Factory: Wakefield, Mass.**

SALES OFFICES:

Heywood-Wakefield Co. 516 West 34th St. New York

E. F. Boyle Monadnock Bldg., San Francisco, Cal.

Heywood-Wakefield Co. 1415 Michigan Ave. Chicago, Ill.

F. N. Grigg 630 Louisiana Ave. Washington, D. C.

Railway and Power Engineering Corp. Toronto and Montreal

G. F. Cotter Supply Co. Houston, Texas

**The SELDEN LINE comprises a series of light and heavy-duty units of transportation—each powerfully constructed to give highly efficient and economical service in the particular commercial pursuit for which it is intended.**

*WRITE for Complete Information*

SELDEN TRUCK CORPORATION
ROCHESTER, N. Y., U. S. A.

# Selden Motor Trucks

*For*

*Truck or Motor Bus*

*Investigate*

# *TORBENSEN AXLES*

*The TORBENSEN AXLE CO.*
*CLEVELAND, OHIO*

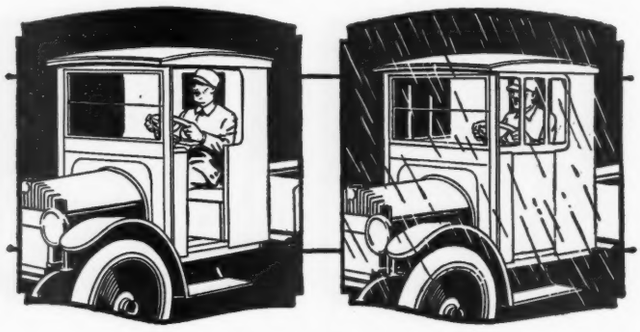
# "TOUR-A-BUS" BODIES

Properly Balanced, Strong, Noiseless, for Rapid Interurban Service



Five Sizes—11 to 24 Passengers
Made to Fit Standard Chasses

**Weatherproof Body Corporation**
**Plant A. Corunna, Mich.**
**Manufacturers of**
***Bus Bodies, Heavy Duty Cabs, Commercial Bodies, Ford "Weatherproof" Closed Tops***



# use HIGHLAND cabs

MODEL D

THE DOORS

**The doors are arm high and roll into pockets beside the driver's seat where they automatically lock.**

**The windows are independent of the doors. They slide, they fold as they open.**

THE HIGHLAND BODY MFG. CO.

403 Township Avenue Cincinnati, Ohio

# COLUMBIAN

*Partition Mounted*
*3 Point Supported*

# TRUCK TANKS

Exclusive and Extraordinary Features—Partition Mounted, Lowest Mounting, Less Deadweight. Three-Point Supported, No Twisting Strains, Less Upkeep Expense. Jointless Pipe Lines with Funnel Outlets. Welded-on Bucket Boxes. Removable and Adjustable Side Carrying Racks, Tank, Mounting, Pipe Lines and Bucket Box Welded into a Monometallic Unit. Correct Distribution of Load on Rear Axle. The Triumphant Climax to Truck Tank Construction.

## COLUMBIAN
Monometallic
## DUMP BEDS

Longitudinal sills formed from side and bottom members. All members electrically welded into monometallic unit. No rivets in entire assembly. Stronger, more rigid, longer service. Five models. Tail gate hinged top and bottom—double acting.

## COLUMBIAN
Lightning Hoist

A simple device built upon sound engineering principles, giving power that enables a man to dump a five-ton load with ease and without power expense. Narrow and compact in construction. Mounts in 11 inch space.

## THE BIG 3
of the
Truck Equipment Field

A letter, a telegram or a ring on the telephone will bring full data and way down prices on any one or all three.

COLUMBIAN STEEL TANK CO.

Tanks for the World Established in 1894

1405-1625 West 12th St. Kansas City, Mo.

*The*
# RED EYE
*Does It!*

Red Eye Spring construction makes springs strong at what is ordinarily the weakest point—the union of the eye and top leaf.

The eye is forged at the same time the top leaf is heated and rolled, thereby eliminating numerous consequent heatings which often change and impair the micro structure of the steel.

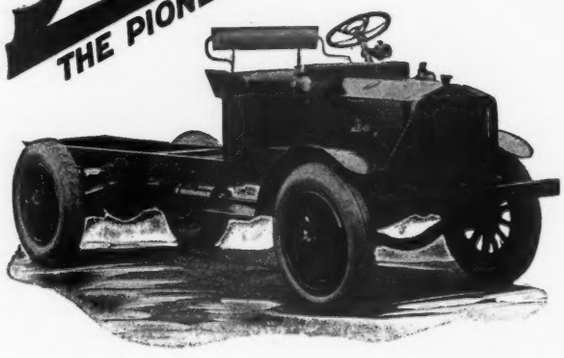
You may be *paying* for quality springs—be sure you *get* all the *strength* you pay for by specifying Red Eye Saving Springs—the spring with the visible selling asset.

**The Saving Spring Co.**

**Ashland, Mass.**

*Rowe* TRUCKS

THE PIONEER



**Complete Line Worm-Driven Trucks**
**¾ to 6 Ton Capacity**

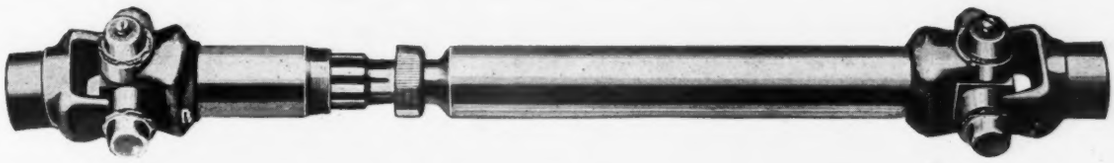
**ROWE COMMERCIAL BODIES**
**BODIES OF UNUSUAL CONSTRUCTION**

**Valuable Territory Open to Dealers**
**Write for Catalogue**

ROWE MOTOR MANUFACTURING CO.

LANCASTER, PA.

THIS SYMBOL IN ANY ADVERTISEMENT MEANS: SEE "CHILTON AUTOMOBILE DIRECTORY" FOR COMPLETE BUYING INFORMATION



LUBRICANT PUT IN THESE OIL LUBRICATED JOINTS
WILL NOT "DECORATE" THE CHASSIS

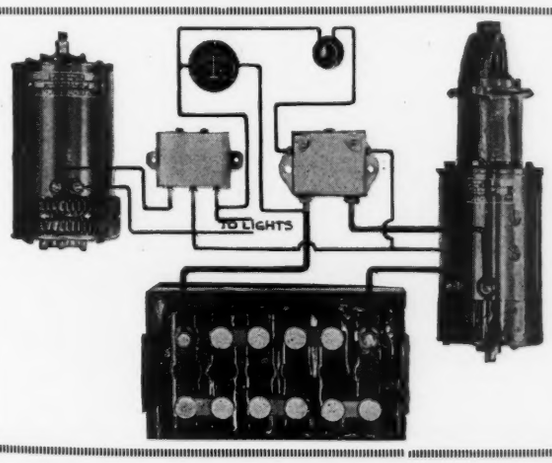
**Blood-Brothers Machine Company**
**ALLEGAN** **MICHIGAN**

PRESSED STEEL FRAMES
The largest and best equipped
frame plant in the world
A-O-SMITH CORPORATION
- MILWAUKEE -

# RAIN OR SHINE TRUCK CABS

We unreservedly guarantee that the famous Rain-or-Shine Cab will give satisfactory service. Our dealers sell them with complete conviction that they are selling the highest cab value obtainable. Learn about our interesting discounts. Address

**GENERAL WOODWORK CORP.** **Cincinnati, Ohio**




## Makes Your Motorbus More Desirable

Every buyer will be more interested in your motorbus if it has a

**LEECE-NEVILLE 12 VOLT ELECTRIC STARTING AND LIGHTING SYSTEM**

The compensator limits the cha ng rate of the generator to the proper amount of current re uired by the storage battery, whether the lights are on or off. Prevents damage to battery thru overcharge when lights are not burning and causes generator output to rise to highest charging rate when lights are burning.

**THE LEECE-NEVILLE COMPANY**
**CLEVELAND, OHIO**

THIS SYMBOL IN ANY ADVERTISEMENT MEANS: SEE "CHILTON AUTOMOBILE DIRECTORY" FOR COMPLETE BUYING INFORMATION

# Good Trucks Build Good Business for DAY-ELDER Dealers

If, every year, a greater number of experienced truck users, *convinced by the test of comparison*, are turning to Day-Elder Worm Drive Motor Trucks, there must be something unusually good about those trucks.

And if other dealers can increase their business and their profits every year by handling such a truck, why can't you? We are ready to get you started with a dealer proposition so sound that it is bound to give you a long handicap right from the start.

***It will cost you nothing to ask us about that proposition. Do it now and give yourself the benefit of at least knowing what we have to offer.***

DAY-ELDER MOTORS CORPORATION
NEWARK NEW JERSEY

**DAY-ELDER**
**WORM-DRIVE MOTOR TRUCKS**

1867 1923



A 36x6 Dual S. A. E. METAL FELLOE TRUCK WHEEL ready for hub and tires.

## Weight 160 Lbs.

How does this compare with the weight of wheels you are now using as standard on your trucks?

Further information gladly furnished upon request.

**Hoopes, Bro. & Darlington, Inc.**
WEST CHESTER, PA.



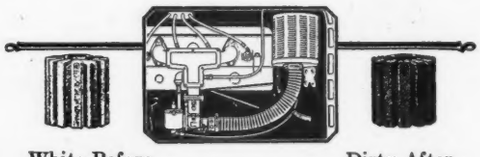
## Keeps Five TrucKranes Busy

This is just one of five Truckranes in the fleet of The Worth Motor Service Company of Chicago. There are so many jobs for the light, speedy Truckranes to do, the five are busy all the time, and that means making money.

Let us tell you more about this sturdy Byers outfit. We furnish the crane to be mounted on any truck chassis of 5 tons capacity, measuring 9 ft. 6 in. or more from back of driver's seat to center of rear axle.

**The Byers Machine Company**
**155 Sycamore St.** **Ravenna, Ohio**
*Sales Agencies in 25 Leading Cities*

**TrucKranE**



White Before Service — Dirty After Service

# STAYNEW FILTER

## ROAD DUST

## The Greatest Enemy to Motors

It is a well-known fact that road dust entering thru the carburetor air intake to the motor makes the oil gritty, thereby causing excessive wear on the pistons, piston rings, cylinder walls and bearings, making it noisy and inefficient, which results in direct loss of power, increased fuel consumption and, in most cases, reboring of cylinders and fitting of new pistons and piston rings is necessary.

Eliminate this trouble and expense by installing a Staynew Filter, which will save the cost of installation many times.

Complete sizes and fittings for all makes of cars and trucks; simple to install and requires no attention.

*Exclusive territory to live dealers and distributors. Write for details.*

**STAYNEW FILTER CORP.**
**Rochester, N. Y.**

# WYMAN-GORDON

*The Crankshaft Makers*

Worcester Division
WORCESTER, MASS.

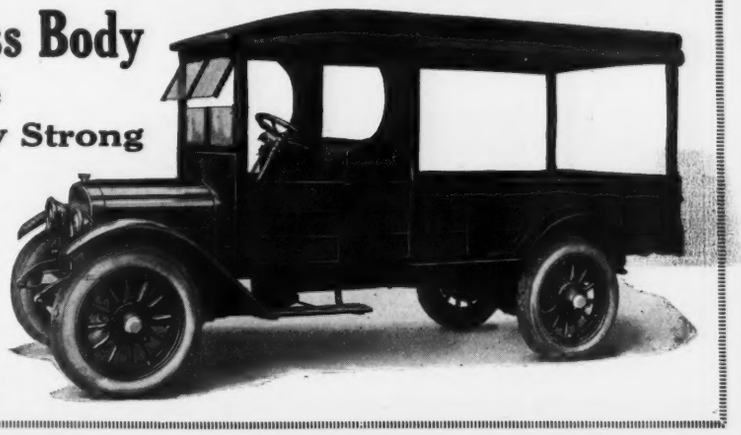
Ingalls-Shepard Division
HARVEY, ILL.

## A New Ribbed Panel Express Body

**Added to Babcock Line**

**Very Roomy and Exceptionally Strong**

SPECIFICATIONS: Loading space, 96" x 56½" x 64" high. Width between Wheelhouses, 45"; Side Panels and Tail Gate, 19½" high, **steel lined;** Body heavily ironed; Metakloth Curtains side and rear, also back of Driver's Seat; Driver's Storm Curtains with Pyralin Lights; Fore Doors, Windshield, Rear Fenders and Splashers built in Body; Spring cushion Seat and full width Back; Roof, 12 oz. Oil Duck, leaded and painted.



**H. H. BABCOCK COMPANY**

Established 1845

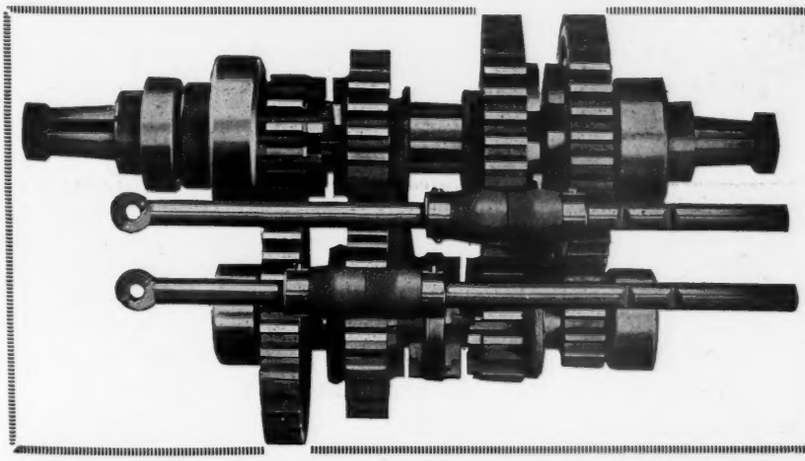
WATERTOWN NEW YORK

# The Bear Tractor

*Write today regarding unassigned territory, and ask for catalog and distributor's and dealer's proposition*

BEAR TRACTORS, INC., 5303 PARK PLACE, NEW YORK CITY

*The Tractor that Delivers its Power to the Drawbar*



## COTTA GEAR CO.

**INDIVIDUAL CLUTCH TRANSMISSIONS**

**FOR**

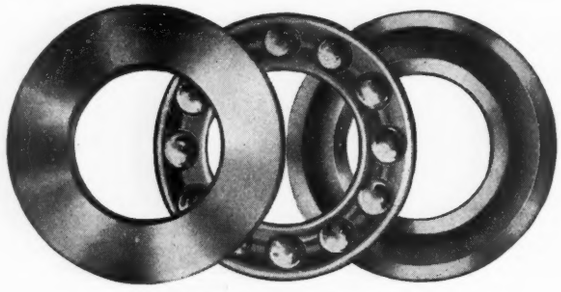
**3½, 5 and 7 Ton Trucks**

Notice the short, compact and husky construction.

Long bearings in the loose gears.

**COTTA GEAR CO., Rockford, Ill.**

THIS SYMBOL IN ANY ADVERTISEMENT MEANS: SEE "CHILTON AUTOMOBILE DIRECTORY" FOR COMPLETE BUYING INFORMATION



Western Sales Office:
1012 Ford Bldg.
Detroit, Mich.

## The Bearings Co. of America

Your present Thrust Bearings sizes duplicated.
Thrust Ball Bearings made to your blueprints.
Quotations made promptly on all inquiries.

**The Bearings Co. of America**
Lancaster Pennsylvania

# White Trucks

## Built to do the Most Work For the Least Money

THE WHITE COMPANY, *Cleveland*



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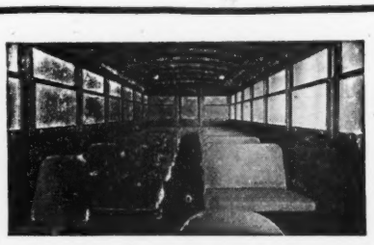
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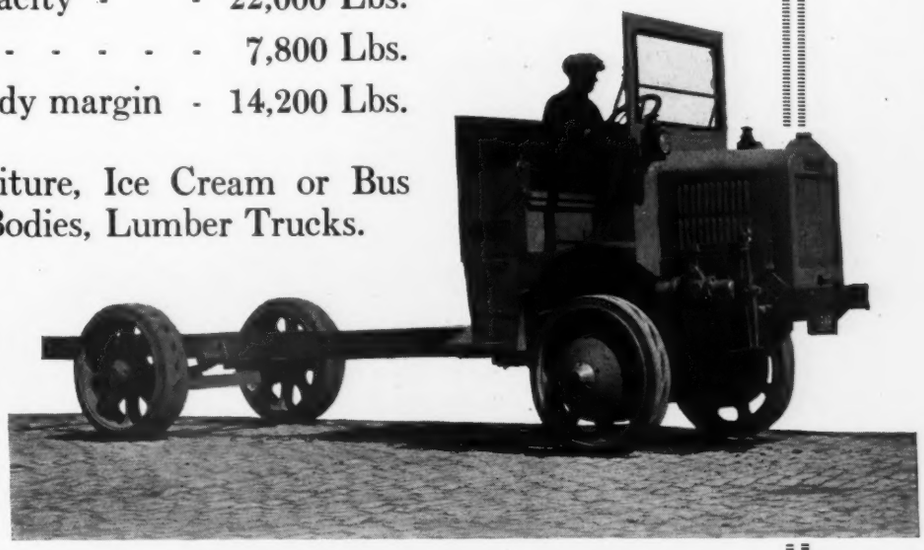
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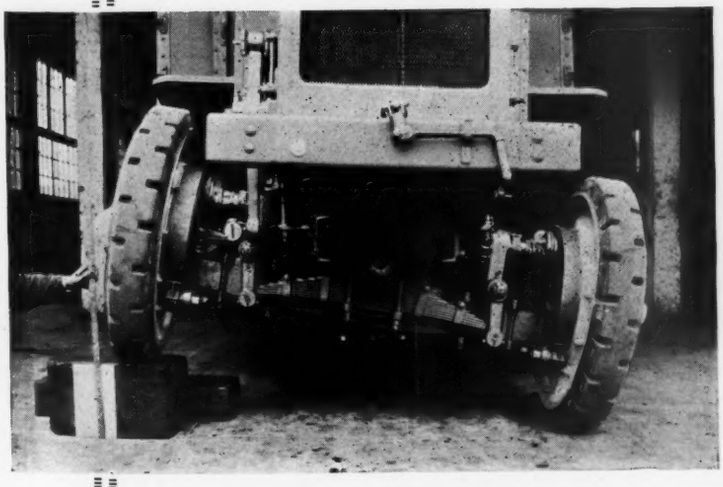
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# Welcome to Autocar!

WE note with interest the advent of The Autocar Company to the electric truck field and their announcement, as follows:

"Every congested center is demanding the quicker movement of all street traffic.

"Mechanical power must be applied to the short-haul vehicles and to those working on frequent-stop routes.

"The electric truck is best adapted to speed up that portion of street traffic which is now the slowest.

"It is this demand, arising in every important city, which has caused The Autocar Company to add the Electric to the line of Autocar gasoline trucks."

We anticipate that the next five years will see a number of other gas truck manufacturers adding Electric Trucks to their lines.

It is perfectly logical: Gas Trucks for the long routes. Electric Trucks for short hauls and frequent stops—in place of "Dobbin."

If there is room for both in a manufacturer's line, there is room for both in the gas truck dealer's business. If it pays a gas truck manufacturer to make Electrics, it will pay you to sell Electrics as well as gas trucks.

Instead of being competitive and antagonistic, they dove-tail—they enable you to render complete transportation service to your customers and prospects.

For the information of gas truck dealers who are not posted on the Electric Truck situation, we suggest that you get in touch with one or more of the following manufacturers of Electric Trucks:

The Autocar Co., Ardmore, Pa.
Commercial Truck Co., Philadelphia
Kelland Motor Car Co., Newark, N. J.
Lansden Company, Inc., Danbury, Conn.
The Milburn Wagon Co., Toledo, Ohio
O. B. Electric Vehicles, Inc., Long Island City, N. Y.
Steinmetz Electric Motor Car Corp., Baltimore
Walker Vehicle Co., Chicago
Walter Motor Truck Co., New York
Ward Motor Vehicle Co., Mt. Vernon, N. Y.

We will be glad to mail to any gas truck dealer who desires it, a copy of the National Electric Truck Show Supplement, illustrating and describing nearly all of the different makes of Electric Trucks, batteries, charging outfits, etc. —without obligation.

**Ward Motor Vehicle Company**

6 Sizes of Electric Trucks: 750 lbs. to 5 Tons

South Fulton Avenue Mt. Vernon, N. Y.

# Ward Electrics

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# Motor Wheel PRODUCTS

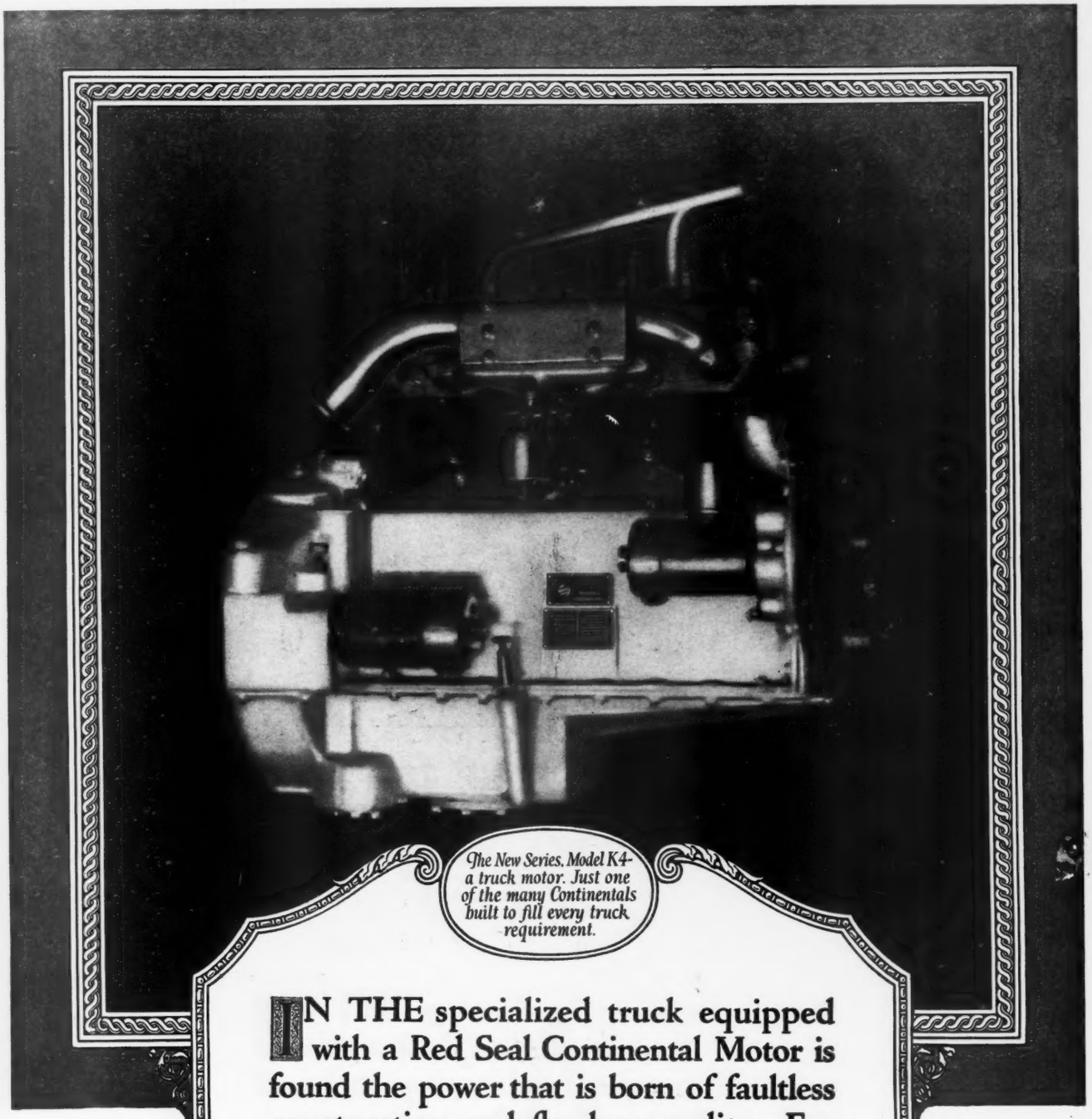
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**MOTOR WHEEL CORPORATION,** *Wood Wheels, Steel Wheels, Stampings,* **Lansing, Mich.**

# Truck Wheels

Motor Wheel PRODUCTS





*The New Series, Model K4- a truck motor. Just one of the many Continentals built to fill every truck requirement.*

**IN THE specialized truck equipped with a Red Seal Continental Motor is found the power that is born of faultless construction and flawless quality. For twenty-two years such perfection has been represented by—the Continental Red Seal.**

***Built by the largest motor Specialists in the world***

**CONTINENTAL MOTORS CORPORATION**
Detroit and Muskegon, Michigan

CONTINENTAL MOTORS
*Powerful as the Nation*
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